100 issues of the greatest CPC coverage

AMSTRAD ACTION

ISSUE No.100 January 1994 £2.95



ELITE

You voted it the best game ever on the CPC, and we're giving it away with this issue

WE ARE THE CHAMPIONS

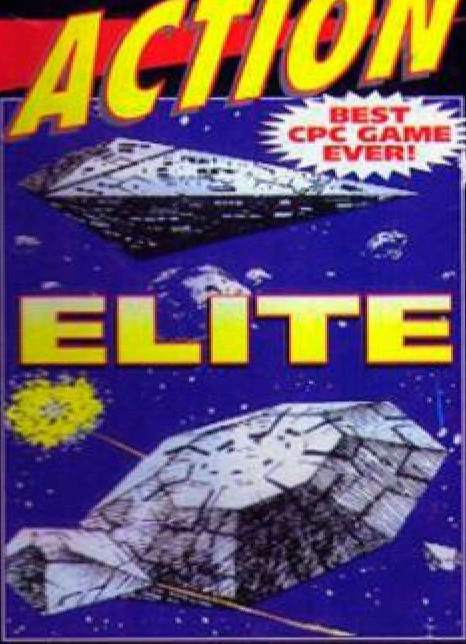
Discover the 100 top CPC products of all time.

Plus

- We explore the past, present and future of the CPC
- 10 pages of tips and hints for games and programming

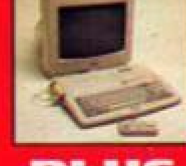
Amstrad CPC 464, CPC 6128, CPC 464 Plus

JANUARY 1994 Serious ACTION



• TOP TIPS • FIRST REVIEWS • BEST ADVICE •





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9 770954 806041 01

Line

Serious stuff



Cover feature

Leisure zone





Jumpmania continues the Public Domain's preoccupation with puzzlers starring smileys.







The longest-serving AA editor, the shortest-serving one and someone else.

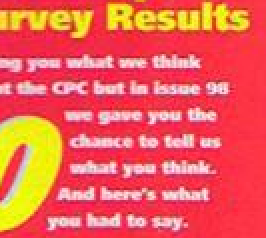
Find out which is which on page 48.

-up

Regulars



Obstacles like will present no problems when Army Moves gets the Cheat Mode treatment.



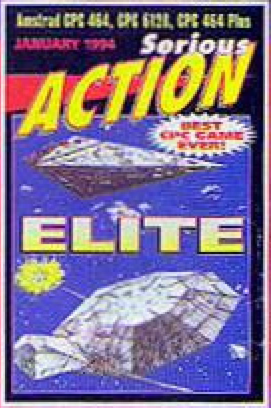
Serious ACTION

ELITE

The greatest CPC game ever

What are you waiting for? Get playing. All the instructions are just over the page...

Serious ACTION



ELITE

There really was only one game we could give you with our celebratory centenary issue – the game you voted the best ever... Elite.



Ask any programmer, any computer games journo or anyone who's been playing computer games for more than a couple of years and they'll tell you the same thing – *Elite* is THE all-time classic computer game. It's indisputable proof that when seasoned, old game hacks hailing from the heady days of the eight-bit revolution in the early 80s wibble on about gameplay being more important than than impressive graphics and speed, they know what they're talking about (it's annoying when the old codgers are right, isn't it?).

Elite is an SF trading game which involves accumulating as much loot as possible, but so's *Monopoly* and that's dead boring. So how come *Elite*'s not tedious, too? Well, you see, it's the way that you accumulate the dosh that makes the difference. Have you ever heard a dodgy TV character say that he's in the export and import business? Well you're about to find out what he really does for living. Your job is to buy goods from one planet and sell them off at another for hopefully a huge profit. For example, find an industrially advanced planet from which to purchase some computer gear then sell it at an agricultural planet which is still in a technologically dark age.

Unlike loads of modern day games, *Elite* gives you real value for money because, you see it's actually two games in one; what I mean is that you can play it in two completely different ways. First there's the safe way, the slow way, in which you obey every law destroying only those ships which attack you first. Or there's the I-don't-care-what-happens-to-me-or-my-crew way, (which should keep the Sega/Nintendo-influenced generation happy) in which you blast everything in sight and act like a space pirate.



Out here in witch space the nasty little Thargoid ships rule supreme.

Danger ratings

Every planet you come across will have a defined political status. Starting with the safest to visit these are: Corporate states ● Democracies ● Confederacies ● Communist States ● Dictatorships ● Multi-Governments ● Feudal Worlds ● Anarchies

Kill, kill, kill!

There are two ways of blasting your enemies out of the skies; you can laser them to death or you can lob one of your missiles at them. To launch a missile, hit T and the missile will lock on when the target is in your sights, hit M to fire. U will disarm the missile if you decide after all that you don't need it.

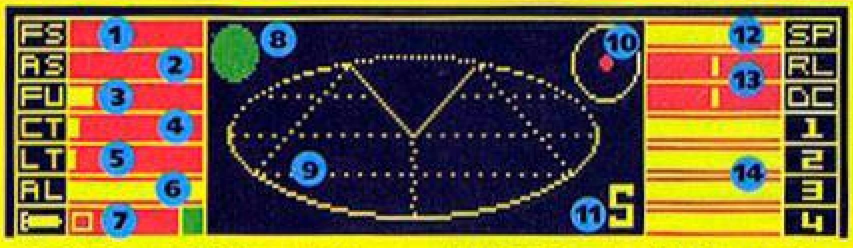
At the start of the game you'll be coded a harmless, squeaky-clean pilot and your aim is to acquire as much money as humanly possible whether through fair or foul means.

It all seems pretty complicated at first and it will take a while to get into, but it's well worth the effort. Once you get involved you're going to find it very difficult to tear your self away. Trust me, I'm a journalist (oh, well, trust me anyway).



Kill within sight of a space station and the cops will be out before you can say arrggh...

Status report



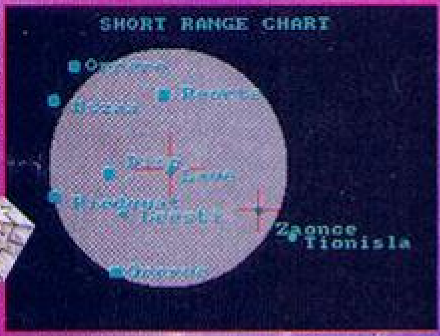
1 Front Shield – Limited protection from enemy fire (but every bit helps, eh?).
2 Aft Shield – Limited protection from any enemy fire aimed at your backside.
3 Fuel Level – Fancy the idea of being stuck in space with no fuel? No? Nor do I.
4 Cabin Temperature – Rises to dangerous levels if you're too close to a sun.
5 Laser Temperature – Laser weapons cut out if they get too hot.
6 Altimeter – Flying too near a planet's surface can be fatal so keep an eye on this.
7 Missile Counter – Counts your missiles (a bit obvious, I know, but it needed to be said).
8 Status Indicator – Green means all is safe, yellow means possible danger, red means immediate danger and flashing red means critical danger. Got that? Good.
9 Flight Grid Scanner – this displays a three dimensional view of space in the immediate vicinity of your ship.
10 Compass – This indispensable device picks out your target planet and then the space station when it comes into viewing range.
11 S Indicator – shows that the compass is on the space station and not the planet.
12 Speed – Erm, this shows you how fast you're going. What a concept.
13 Right/Left, Down/Climb – Gyro-orient bars show movement status.
14 Energy banks – run out of energy and you've had it. Game over man, game over!

Wheelin' and dealin'?

The Acme *Amstrad Action* quick guide to getting cargo from space station to space station.

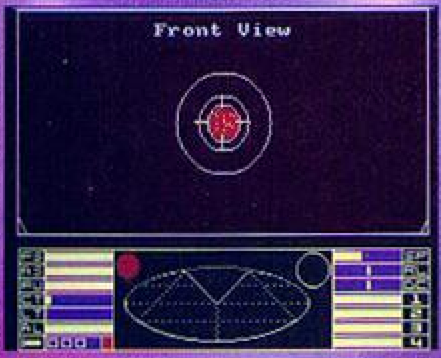


1 You start off docked on the Lave space station so the first thing to do is to check out the market prices of goods on the planet (hit 8 on the keyboard) and to buy up plenty of the bargains (2 on the keyboard gets you to the purchasing screen; simply hit RETURN until you get to the goods you want, buy the number of tonnes you require, then hit CLR to exit). For this example let's assume you bought four tonnes of liquor.





2 Next you want to suss out a suitable planet on which to sell your goods. So hit 6 to bring up the local cluster chart (in the grey circle are planets within your hyperspace range) and check out the surrounding area – move the cursor to a planet and hit 7 to bring up vital information about that planet. Zaonce looks a pretty good bet; it's a pretty tedious-looking place so they probably drink lots of beer. So highlight it on the short range chart and get ready to fly.



3 To exit from the space station tap 1 on the keyboard. Once you're out, hit H to hyperspace to your chosen planet.

4 When you come out of Hyperspace the planet will be visible. Line up your sights on the planet and hold down J to initiate your Torus jump drive; the jump drive will cut out before you get too close to the planet (the jump drive will not work if either a space station or another ship is in sight).

QUICK KEY CONTROL GUIDE

SPACE FLIGHT CONTROLS

Anticlockwise roll	< OR ←	-or joystick
Clockwise roll	> OR →	-or joystick
Dive	S OR ↑	-or joystick
Climb	X OR ↓	-or joystick
Increase speed	SPACE	
Decrease speed	/	
Front view	1	
Back view	2	
Left view	3	
Right view	4	

SPACE COMBAT CONTROLS

Fire laser	A	-or fire button
Target missile	T	
Fire missile	M	
Unarm missile	U	
ECM	E	
Energy bomb	TAB	
Escape capsule	ESC	
Docking computer on	C	
Docking computer off	C	

NAVIGATION CONTROLS

Hyperspace	H	
Intergalactic jump	hold G then H	
Distance to system	D	
Cursor cross home	COPY	
Cursor cross control	← → ↑ ↓ (left, right, up, down)	
Galactic chart	5	
Local cluster chart	6	

TRADING CONTROLS

Launch from station	1	-only while docked
Buy cargo	2	-only while docked
Sell cargo	3	-only while docked
Equip ship	4	-only while docked
Galactic chart	5	
Local cluster chart	6	
Data on system	7	
Market prices	8	
Status page	9	
Inventory	0	
Find Planet	F	-only while docked

GAME CONTROLS

Torus jump drive	J	
Freeze game	DEL	
Continue game	CLR	
Initiate save	@	-only while docked

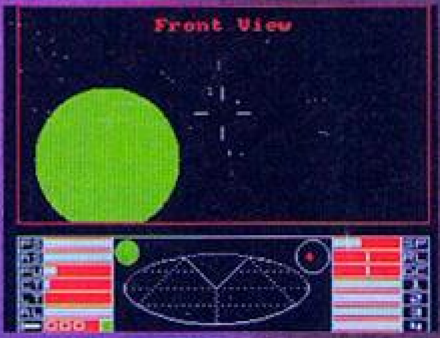
OTHER CONTROLS

Note: These controls can only be used while the game is frozen.

Keyboard re-centering toggle	R	
Keyboard/damping toggle	D	
Keyboard/joystick toggle	K	
Reverse joystick	Y	-Y direction only
Reverse joystick	B	-both directions
Sound effects off	Q	
Sound effects on	S	
Start new game	T	



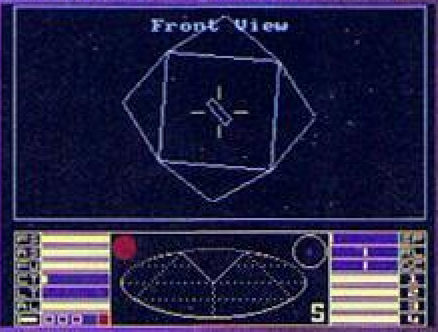
5 Next you need to locate the space station. The best way to do this is to fly in an orbit around the planet until it comes into view. When your planet compass picks up the space station an S will appear in the bottom right of your console. When you've found it hike up your speed and get there as quickly as you can.



6 Now we come to the really tough bit, docking with the space station. One side of the station will have a large, rectangular slot in it – that's the entrance to the docking bay.

7 Once you've located the entrance you need to line your self up so your ship is at a perfect right angle to that face of the ship and slowly make your way towards the slot.

8 The serious problems come in when you start to realise that your ship is the same shape and only a tiny bit smaller than the slot and the slot is rotating, so you have to get yourself rotating at exactly the same speed, then go in very slowly.



9 Once you've accumulated enough money you'll be able to buy yourself a docking computer, but until then it's manual all the way.

Loading Instructions

To load up *Elite* simply wham the tape in your datacorder, make sure it's rewound to the beginning of side one and hit the Control and small Enter keys together, then follow the on-screen instructions. The only problem with *Elite* is that it's so darned huge it wouldn't fit on one side of the tape, so when the tape clicks to a halt at the end of side one, what you have to do is turn it over and hit play to load the rest of the data.

Disk not tape

If you've got a disk drive and you want to get a disk version of *Elite* then it's easier than falling off a very slippery log. Whip out your scissors and chop off that token down the bottom of this page, chuck it in an envelope along with your name and address on a slip of paper and a cheque or postal order for £2 made out to Ablex Audio Video, then send off the whole kit'n'kaboodle to: *AA100* Disk Offer, Ablex Audio Video, Harcourt, Halesfield 14, Telford, Shropshire. TF7 4QD.

Loading troubles?

We make the greatest efforts to ensure our cover tapes work properly, but if you're having problems loading *Elite* try out these solutions:

- Load at several different volume levels (if you're loading from an external tape recorder).
- Clean the tape heads (a drop of isopropyl alcohol on the tip of a cotton wool bud is best).
- Adjust the tape player's head alignment by twiddling the screw to the left of the tape head just a little bit at a time.
- Tap the cassette, very gently, on a hard surface – the spools might be jammed.

If you've tried all that and your tape's still not loading then pop it in the post (include your name, address and a brief description of the problem) to: *AA100* Covertape Returns, Ablex Audio Video, Harcourt, Halesfield 14, Telford, Shropshire. TF7 4QD.

If you send faulty tapes to the AA office they'll just end up as Christmas decorations, so DON'T DO IT.

Disk 100 Token

Amscene

What's hot and not what's not on the CPC news front.

Century innings



AA's latest Editor Dave keeps his mouth shut to prevent glare from his teeth ruining the photograph.

Reaching one hundred issues is a rare feat for any magazine and even more exceptional for a computer mag. Computer formats come and go and their affiliated mags do the same, but the loyalty of CPC users has meant that *Amstrad Action* is still going strong after eight years.

And we'd like to think that AA has played a part in keeping the scene so active; we have supported the CPC one hundred per cent through thick and thin and now we're the only mag that still keeps all CPC users in touch with all the latest developments.

Unfortunately there is one slight grey cloud. Where, you might ask, has *Street Fighter 2* got to? Strangely we've been asking the same thing. We promised you a review this issue, but at the last minute US Gold informed us that the release date they had on their schedules was a clerical error and that there were no plans to release the game on the CPC ever. Do they know what an opportunity they've missed?

But fret not, because Radical software have got a beat-'em-up due for release in the New Year, which should fill the gap. Check out page 57 for details.

All the best. **Dave**

CPC to get Mac-style desktop on ROM

Campursoft are set to release a ROM-based Mac-Style desktop utility for the CPC early next year.

The program, which will come on two ROMs, will take control of the CPC as soon as you switch on. It provides an easy-to-use front end making use of windows, icons, menus and pointers (in other words a WIMP inteface). It will scan disks, listing and identifying types of of files, and let you run programs at the press of a button. It can also switch between various ROMs applications and utilities.

It will provide a choice of keyboard or mouse control (it is AMX mouse compatible) and there are a number of text/background colour options available so that you can set up the system to your personal tastes.

The program, which has been written by Michael Beckett, previously responsible for the PD video titling package, *Run VT*.

Campursoft are hoping to have the program ready for a January launch. The provisional price is £24.99 for the ROM version. A disk version will also be available, provisionally priced at £19.99. These prices extremely likely to change, however. But you can be sure that the first review will be in AA.

Opening the vaults

The Vault is a new Irish PD library with big ideas which has a couple of special opening offer schemes.

First off they have compiled a questionnaire which probes people's PD-buying habits. Everyone who replies to the questionnaire – which is sent out with orders or requests for catalogues – will be entitled to a free selection of PD from the library's... er... vaults (sorry).

The library hopes that the results of the questionnaire will help them provide the ultimate PD service. The results will also be made available to anyone who wants them (possibly at a nominal cost of a few pence).



A library with vaulting ambition.

The Vault's second scheme is a bit more traditional – two selections for price of one until the end of January. Selections cost 25p each.

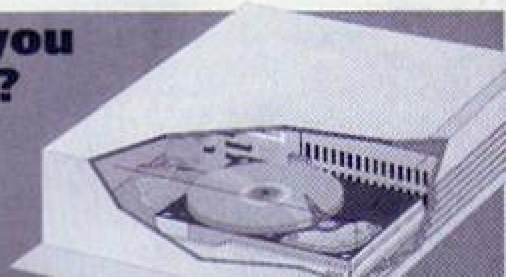
The library already has a fairly large collection and aims to import all the best and latest software from the continent.

Contact The Vault, 43 Windfield Gardens, Clybaun Road, Galway, Ireland ☎ 010 353 91 28204.

Can we interest you in a hard drive?

Quantum are interested in hearing from people about their opinions on a CPC hard drive. The company is prepared to develop one if there is the demand. They would also like to hear how much you would be prepared to pay for a hard drive to see if development is feasible in terms of costs.

Contact Quantum Computing on 0446 746920.



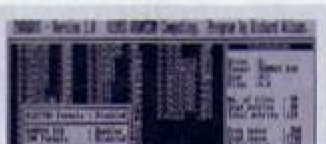
Campursoft's hard drive (see issue 95) never saw the light of day. Hopefully Quantum's will.

Another slice of ParaDOS

Quantum Computing are set to release a fully Plus compatible version of their rather funky ROM-based disk utility *ParaDOS* (reviewed last issue).

The new version fits into slot seven and jumps straight into BASIC when you start the machine (ie, there isn't that irritating F1/F2 request) but you still have access to *Burnin' Rubber*, which you didn't have with the previous version.

Contact Quantum Computing on 0446 746920.



Plus compatibility for ParaDOS.

Late for lessons

Sentinel Software would like to apologise for the delay in sending out their latest batch of programming tutorials (reviewed in *AA98*). This was due to a delay at the printers. Anyone who has sent off money to Sentinel should have received their tutorials by now, however.

The start of Forever

The first issue of *CPC Forever* (or is that the sixth issue of *Amstrad Fun*?), which we mentioned in our fanzine round-up last issue, will be available in January. Billing itself as 'Europe's favourite fanzine' it'll be full of all the usual controversial features, news and lots of stuff about the European scene.

If you want to get hold of a copy it'll cost £1.50 (not 50p as reported last issue) and you need to write to Keith Woods, 8 Springfield Drive, Templeogue, Dublin 6W, Ireland.

Pick'n'Kixx compo winners

And finally, the results to our Kixx compo that we ran way back in issue 96. The correct answers were A, A and A which everybody except someone from Milton Keynes who shall remain nameless got right. So it was on to the tie-breaker to decide the winners. We asked you to create a new game from other game names, and these were the ones that came nearest to splitting our sides:

- *Indiana Ghouls Go For Gold*
RJ Mitchell, Ammanford, Dyfed
- *Championship Camp (a Julian Clary simulator)*
SJ Lee, Huntingdon, Cambridgeshire.
- *Postman Pat Ultimate Warrior*
M Richardson, Northants
- *Thunderblade Dispels Dangerous Myth of Moonwalker*
B Anderson, Bilston
- *Turbo Rick and The Vigilante Ghosts*
Simon Crabtree, North Allerton, North Yorkshire.

Copies of *Rick Dangerous 2*, *OutRun Europa*, *AcroJet*, *Final Fight* and *Mercs* are in the post now.

The Amscene Directory



There's a whole load of new entries in the directory this month, as you lot realise the potential of such a brilliant service. It's a bit like the Thompson Local (by the way did you know the bloke who animated Thompson the Cat worked on *Aladdin*? Just thought I'd mention it). So if you can offer your fellow CPC users a service of some sort write to us here at Amscene Directory, *Amstrad Action*, 30 Monmouth Street, Bath, Avon BA1 2BW and we'll make this the most comprehensive list of CPC services in the known universe.

PD Libraries

Amsof
✉ Lissenly, Cloyne, Middleton, Ireland
Large range of European stuff.

Colrob PD
✉ 9 Aviemore Road, Hemlington, Middlesborough
New tape-only PD library

Dartsma
☎ 081 317 1170
And they do loads of other CPC-related stuff as well.

Demon
✉ 47 Milton Avenue, Hall Green, Birmingham B28 0PE
3.5-inch disk drive owners might like to investigate.

Disk PD
✉ Lower Dexbeer, Dexbeer, Holsworthy, Devon EX22 7LA.
☎ 0288 82348
Small but perfectly formed.

GD PD
✉ 49 Woodville, Barnstaple, Devon EX31 2HL
New library with a large selection.

PD Fun
✉ 41 Michaelgate, Kirkby Lonsdale, Via Carnforth, Lancs LA6 2BE
A policy of 'no serious software.'

Presto PD
✉ 119 Pwll Street, Landore, Swansea, West Glamorgan SA1 2PB.
The only library to offer stuff on 5.25-inch disks (as far as we know).

Signal Software
✉ 83 Longleat, Great Barr, Birmingham, West Midlands B43.

Sheepsoft
☎ 0446 736529
Based in Wales, of course. Baaaaa

The Vault
✉ 43 Windfield Gardens, Cybaan Road, Galway, Ireland.
☎ 010 353 91 28204
A new but rapidly expanding library with lots of European software. There's a special two-selections-for the price of one (25p) offer until the end of January.

Fanzines

CPC Now!
☎ 0353 663030
Issue five of this rapidly expanding fanzine is due any time now. Entrepreneurial editor James Hockney promises even more big changes to come.

The Eliminator
✉ 14 Station Road, Riccall, York, North Yorkshire YO4 6QJ
Buy it and find out how many rude comments they make about us (but marvel at the depth of technical knowledge at the same time).

WACCI
☎ 0602 725108
Buy it and find out how many rude comments they make about us (but marvel at the depth of technical knowledge at the same time).

CPC User
☎ 0329 234291
The UAUG's fanzine.

CPC Undercover
✉ 37 Trimingham Drive, Brandlesholme, Bury, Lancashire
An technically-minded Fanzine that's also on the look out for writers.

User Groups

Amstrad Contact
☎ 0403 753348
Sussex-based group run by Dave Muggeridge with a technical helpline.

UAUG (United Amstrad User Group)
☎ 0329 234291
An *AA* recommended user group.

Independent Software Companies

Avatar
☎ 0442 251705
Suppliers of Phil Craven products, and a few of the Bonzo titles (and don't ask what Bonzo titles are – it'd take too long to explain).

BoxForm
☎ 051 336 2668
A software house specialising in, would you believe, betting software. It takes all sorts in this world.

Campursoft
☎ 041 554 4735
You name it, they do it, really – take a look at the interview in ish 96.

Gary & Scott Kennedy
☎ 061 736 1204
Authors of *Trakers*, a truly great CPC game (don't argue).

New Age Software
☎ 01049-711-4201920
Responsible for the dull *Zap'T'Balls*, the excellent *Soundtrakker*, and hopefully a few more titles.

Quantum Computing
☎ 0446 746920
The new breakaway sect of STS that looks set to pick up where the original good plans fell short.

SD Microsystems
☎ 0760 720381
Specialists in business software – take a look at the feature in *AA93*.

Sentinel Software
☎ 081 876 7032
Suppliers of selected STS titles and a few original products. They don't arf churn 'em out.

Siren Software
☎ 061 724 7572
It'c take a hell of a time to list everything they do – check out their ad (it's the yellow half-page one).

STS ☎ 0446 746920
This lot deal with S/DOS, *The Dizzy Utility*, *Disc Imager*, *Disc Archiver*.

The Big Softies

So you can ring them up and hassle 'em about releasing some new stuff.

Alternative Software
☎ 0977 797777

CodeMasters ☎ 0926 814132

Gremlin/GBH ☎ 0742 753423

Ocean/Hit Squad ☎ 061 832 6633

Titus/Fox Hits ☎ 071 700 2119

Touchdown ☎ 0268 541126

Virgin ☎ 081 960 2255

US Gold/Kixx ☎ 021 356 3388
Ask 'em where *Street Fighter 2* has got to.

Zeppelin Software ☎ 091 385 7755

Hardware

Romantic Robot
☎ 081 200 8870
Creators of the Multiface – There's a complete list of cheats in *AA90*.

WAVE ☎ 0229 829109
Suppliers of loadsa good stuff – their ad is on the back cover.

Microform ☎ 0772 703131
Drives, upgrades, disks, all sorts of techy stuff like that.

Mail Order

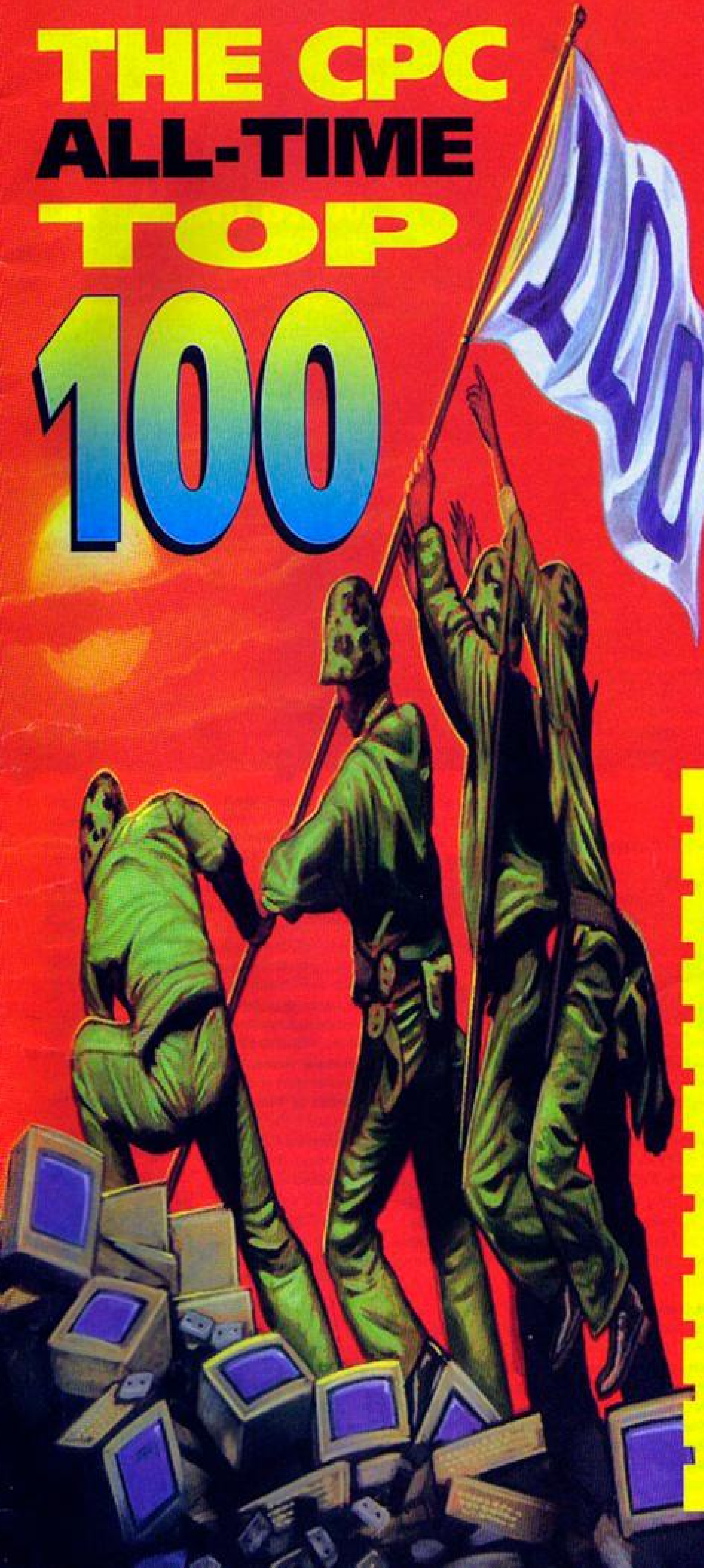
Trading Post ☎ 0952 462135
Great for cart games (see page 42).

Trojan ☎ 0554 777993
The people to speak to for cartridge and lightgun stuff.

Upgrades and Repairs

STS ☎ 0446 746920
These guys'll do anything. Well, within reason, of course.

THE CPC ALL-TIME TOP 100



To celebrate the turning of the century (as far as AA is concerned) we're taking a look back over the eight years of the mag's reign, to sort out for you the 100 essential items that every self-respecting CPC owner should have in their collection. Clur Hodgson is your host.

GAMES

Platformers

Rick Dangerous

The platformer to smash all platformers has to be *Rick Dangerous 2* (Kixx). It epitomises all that's great about platform games – it's fun, it's fast, t's colourful, it's cute and ultimately it's rip-rcaringly good. Rick is out to save the world and it's your job to help him on his way through the five enormous levels that take him to the far corners of the universe (beats the usual platform plot of saving your girlfriend from the evil clutches of Dr Really Mean Guy).

- **Exolon** (21st Century) Gorgeous 93 per cent scoring stonker which, coincidentally, is appearing on next month's cover tape.
- **Nodes of Yesod** (Odin). Spacemen in silver suits roam the planet's surface.
- **Prehistoric 2** (Titus). Elmsoft's champ of a game – did you believe you'd ever see parallax scrolling so smooth on the CPC?
- **Rodland** (Kixx). The ultimate in cute and fluffy creature-bashing fun.



Hey Ricky you're so fine, you're so fine, you blow my mind, hey Ricky, hey Ricky.

Programming

Maxam

If you're at all serious about your computing you will have already tried your hand at BASIC programming. But if you want to start writing programs that move faster than an arthritic snail you're going to have to learn to program in Machine Code. And when you start doing that you're going to have to get your mucky little paws on an Assembler (a program that converts your text-based programs into a form that your CPC can understand). The most advanced to date is *Maxam* (Arnor ☎ 0733 68909) with its full text editor, memory editor and disassembler (to name but a few features). If you can, the best format on which to get *Maxam* is ROM chip but it is available on tape (perfect if you're not really sure if Machine Code is your thing).

- **Graphic Adventure Creator** (Incentive ☎ 0734-817288) Write your own games with ease.
- **HackIt** (Siren Software ☎ 061 724 7572) No program's code is safe with *HackIt*.
- **QForth** (Software Promotions, 6 Langley Close, Hightown, Merseyside L38 9GG) And...



Succinct and to the point, Maxam doesn't need any of that fancy stuff to be great.

- **Hi Soft C** (Hi Soft ☎ 0525 718181) Forth and C are two alternatives to BASIC. Give 'em a go.

Art and DTP



On the other hand, we all need a little beauty in our lives, and OCP delivers.

OCP Art Studio

If there's one thing that a serious computer user can't be without it's a decent art package. I don't know where I'd be if it wasn't for the smart graphs I drew up for my Economics O-level (oops, given my age away there). The one I'd recommend for any level of user on the CPC is *OCP Art Studio* (Datel ☎ 0782 744324). It's the most comprehensive and simple-to-use arty package available. It's got a huge range of drawing tools including cut and paste, transparent and opaque modes, palette-switching and near enough everything that you'd ever need to create great screens on your Amstrad.

- **Stop Press** (AMS, available through Europress ☎ 0625 859333) DTP package which comes free with the AMX mouse.
- **SmartPlus** (Radical ☎ 081 856 8402) A Plus-only DTP package that makes full use of the Plus' capabilities.
- **Micro Design 2** (Compursoft ☎ 041 554 4735) If speed is of the essence then this powerful desk-top publishing package should be your choice.
- **PagePublisher** (SD Microsystems ☎ 0760 720381) A 128-only art program which edged out PowerPage at the last minute (but that gets a mention in the PD section of this feature anyway). See the review on page 14 for the full story.

Word processing

Protext

My preferred word processing program is Protext (Arnor ☎ 0733 68909). I use it on my 6128 when my Apple Mac's otherwise engaged (porting grabs and stuff like that). It's the most user-friendly word processor I've used on any machine. It copies and pastes with ease (I always seem to write my paragraphs in the wrong order and have to swap and change them around to make my copy make sense) (*I'll resist the temptation to comment at this point – Dave*) and the processing options are arranged in the logical menus; everything is easily accessible.



This is what Clur's Touchdown review looked like before Dave got his mitts on it.

Shoot-'em-ups

Smash TV

Points make prizes in this futuristic game show from The Hit Squad in which you blast away at rampaging hordes of androids. *Smash TV* is a by-word for 'non-stop-action' – every time you enter a new studio you know you're going to be subjected to some of the most intense gameplay you've ever experienced. Mary Whitehouse wouldn't like it, that's for sure.

- **Starstrike 2** (Digital Integration) When you find yourself regretting blasting something to oblivion because it looks so stunning you know you've got a graphically gobsmacking shoot-'em-up.
- **R-Type** (Activision) The mother of the blast-'em ups, a classic that spawned a pile of look-alikes as high as the European butter mountain.
- **Ikari Warriors** (Elite) Vertically-scrolling killing romp with a fantastic simultaneous two-player mode
- **X-Out** (Kixx) Almost too fast to be true.



Smash TV was actually based on Andy in HMV when there's a record sale on.

Flight Sims

F-16 Combat Pilot



F-16, the flight sim that even people who don't like flight sims admit to liking.

In my experience the one thing that puts many people off playing with the odd flight sims is that the games are usually far too complicated. That's why *F-16 Combat Pilot* (Digital Integration) is so great to play – you don't have to bother with the complex stuff like landing your plane after a mission if you don't want to. The graphics are great and the control system is really straightforward once you learn the basic key presses. The only fault I could pick is that the sound effects do leave a little to be desired, but you can't have everything can you?

- **Advanced Tactical Fighter** (Digital Integration). One of the speediest flight sims on the market. You'll believe a game can fly.
- **Chuck Yeager's Advanced Flight Sim** (Electronic Arts) A sim for the serious flyers; there's nowt to kill because it's all about controlling your plane.
- **Combat Lynx** (Durrell) A complicated but ever-so-satisfying helicopter sim.
- **Strike Force Harrier** (Mirrorsoft) The aeroplane fan's *Combat Lynx* (*sorry? – Dave*).

Adventures

Chosen by Debby Howard

Heroes of Karn

Although not programmed originally on the Amstrad (the C64 was the first to see it) *Karn* is the undisputed champ of the text adventure scene. As is usual with Interceptor games it provides not only great adventuring but stunning graphics too. Not one for the absolute beginner nor for those who like those lengthy text descriptions of their surroundings. But any self-respecting adventurer should have at least one Interceptor game in their library and this is definitely the one to have.

- **Danger Adventurer At Work** in which you encounter loads of in-jokes about the CPC scene.
- **Lords of Time** Big hairy monsters abound in this early Level 9 offering.
- **Terrormolinos** The tale of a holiday nightmare.
- **Warlord** Medieval swords and sorcery with mind bending puzzles.



All these adventures can be ordered from Wow Software (see page 55).

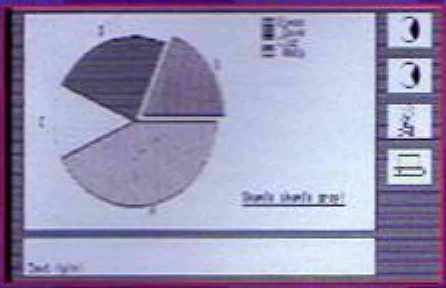
Beat-'em-ups

Way of the Exploding Fist

I for one am not that upset about *Streetfighter 2* not coming out for the CPC. Who needs over-promoted rubbish like that when you've got games like *Way of the Exploding Fist* (Melbourne House)? Go way, way back in time to early 1985 and you'll find rave reviews everywhere you look on every format and in every

- **Tasword** (free on issue 91's covertape)
- **Easy Amsword** (Amsoft ☎ 091 510 8787)
- **WordStyle** (Audiogenic ☎ 081 424 2244)
- **Brunword** (Brunning Software).

Applications



Don't you think you've had enough of that coffee cake now Dave? (Ah, go on, give me just one more slice – Ed).

MiniOffice 2

MiniOffice 2 (Europress Software) encompasses six good examples of applications software, enabling you, if you want, to run a small business with your CPC as the centre of operations. The package includes a word processor (great for writing legible physics essays with), a database (catalogue your records or use it as a technically-advanced address book), a spreadsheet (fab for keeping track of your finances), a label printer, a graphics program (loads of lovely bar charts) and, to top it all, a comms program to enable you to get in touch with all your mates using your CPC and a telephone.

- **Mastercalc** (Amsoft) Easy-to-use spreadsheet program that's as comprehensive as Grange Hill.
- **Masterfile** (Campbell Systems) A database with a certain amount of flair.
- **DBase 3** (DBase) The kind of database that makes you feel good to be using a CPC.
- **ComStar** (Linnet) The best comms program on the market for the price.

Joysticks

The Bug

I'd be stuck on the first level of *Switchblade* if it wasn't for my trusty Cheetah Bug. Okay, so Bugs may not be the hardiest 'sticks (I've broken three in the last 18 months) but they are just so comfortable to use. No more the blisters – known as console thumb – from using the joypad. You should be able to get hold of a Bug from any major games retailers – try it once and you'll be hooked, the only problem being that you'll spend a lot of money replacing your trusty pal every three months.



The Bug – a refugee from the 1950s B-movie Attack of the Killer Joysticks.

- **Amstrad's Joypad**, perfect control for any type of game (if a little squeaky at times).
- **Dynamic's Competition Pro** has a lovely precise feel to the Fire buttons.
- **Microleisure's Star Cursor** is a joystick in the big and chunky tradition, built to sustain the most intense waggling sessions.
- **Spectravideo's Quickshot Turbo**, the best aircraft-style (button on the shaft) 'stick around (and no Dave, I'm not going to recommend the Navigator).

Public Domain

PD essentials courtesy of Keith Woods

Most of these programs will be generally available from the majority of PD libraries. See Amscene Directory on page seven.

PD games

- **Spots** by Jaysoft of Mops
- **Croco Magneto**
- **Jumpmania** by Fraggle of Mops
- **RC Quest** by Jaysoft of Mops
- **Crystal Mission** by Face Hugger

PD Utilities

- **Disc O' Magic** by Joker of Beng
- **DigiTracker** by Prodatron of Symbiosis.
- **Crunch and Turbo Imploder** by Crown of Beng (sounds like something from Monty Python).
- **Power Page** by Richard Fairhurst
- **VDE Word Processor**.



Jumpmania, isn't it? and it won't cost you a bean (well, in theory, anyway).

magazine. *WEF* (as it's known to it's chums) is tough enough to be challenging but as hard to beat as games like *Yie Ar Kung Fu*. The graphics are smoother than a pair of recently upholstered velvet underpants and the controls are a dream to use. High art karate.



You know, Clur can do that with her little toenail.

- **Barbarian 2** (Kixx) One of the rare occasions when the sequel is actually an improvement on the original.
- **Renegade** (Hit Squad) Gorgeous-looking gang-land thump-'em-up that delivers the thumping goods..
- **Thundercats** (Elite) One of the few licences that actually made the grade as a game.
- **Yie Ar Kung Fu** (Hit Squad) This ancient classic was probably the first oriental beat-'em-ups one and it's still got to be one one of the best; tough to beat but well worth the effort to master.

Sports

Purple Saturn Day

The French may be most well-known for their gastronomic excellence but they also have a really scary sporting record too. They invented the game of boules, one of the greatest social levellers in history – whether you're a king or a pauper you still have to stomp around in the same dusty bit of earth and get your feet dirty. And they're far too good at rugby for my liking. But they proved their sporting supremacy to me when a team of French programmers came up with *Purple Saturn Day* (Infogrames). It has one of the weirdest concepts for a sporting game ever; you play a fit young chap proving your sporting excellence in order to win a kiss from the drop-dead sexy princess (*how romantic – Ed*). It looks, plays and sounds like a dream (and not the sort you get after eating cheese).

- **Colossus Chess 4.0** (CDS) A challenge for even the best of players (given away with *AA91*'s covertape).
- **Emlyn Hughes International Soccer** (Audiogenic) Everything you'd need in a footie game (apart from the back pass rule – this came out in 89).



What a woman! What a game! Purple Saturn Day! Exclamation mark!

- **Winter Games** (US Gold) Fabby A icy blast from the past. A selection of winter sports, some good, some superb and some just plain daft.
- **Italy 1990** (Kixx) Get ready for the clichés – it's a funny old game of two halves and you'll be sick as a parrot if you don't play this at least once, Motty.

Arcade Adventures

Switchblade

For sheer immensity alone *Switchblade* (Gremlin) should be in your collection, but the more you play it the more you'll realise why it's an absolute necessity to get hold of. Graphically, it's one of the best games ever with brilliant use of the colour palette to define different sections of the game. Hiro, the hero, is cooler than an Eskimo's toes in winter when he hasn't been bothered to darn the hole in his socks. He's so cool, he can get away with wearing his Raiders baseball cap backwards. He has to save his home planet from the nasty Havok who's threatening to rid the planet of its entire population, one-by-one and very painfully indeed. To aid Hiro in his quest he's got an artificial arm which can utilise a host of lethal weapons. *Switchblade* is the ultimate: big, bad bodacious all rolled up into one.

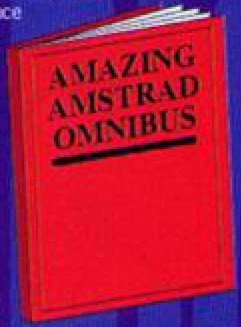
- **Druid** (Microprose) If you've got a phobia about crawly six-legged things, this beetle-killing blast should satisfy your lust for revenge.
- **Gauntlet 1 & 2** (Kixx) Spooky spell-casting classics of our time and beyond (okay, recommending them both is cheating in a top 100, but who cares?).
- **Knight Time** (Mad) Cutesy armour-clad frolics with a humourous twist.
- **Spellbound** (Mad) Mind-wrenching puzzles for those that like a serious challenge.



Switchblade: red grass? Who drew this? (A colourblind genius, by the looks of it – Dave.)

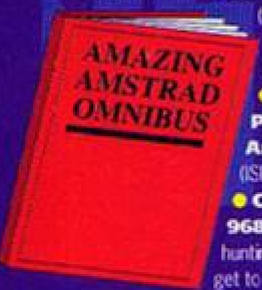
Books

Amazing Amstrad Omnibus



The best all-round reference book to have up on your shelves is the *Amazing Amstrad Omnibus* written by a dead nice chappie named Martin Fairbanks (if you want to order it from your local bookshop the ISBN is: 0 907563 82 1). It's huge enough to prop up even the most wobbly of tables. Instead of being packed full of dead boring diagrams and tedious tables it's brimming with readable text that makes sense and is quite often funny too. Buy it or be damned to live forever in ignorance.

- **Amstrad Book 1: Starting BASIC** by Sean Gray and Eddie Maddix (ISBN 0 907792 39 1) The title says it all really.
- **Amstrad Book 2: Sound, Graphics and Data Handling** by Sean Gray (ISBN 0 907792 40 5) I wonder what happened to Eddie by this volume?
- **Games and Graphics Programming on the Amstrad** by Patrick Hall (ISBN 1 85058 038 3)
- **CPC Firmware Soft 968** Dead rare but worth hunting out if you really want to get to the nitty gritty of your CPC.



If you have trouble finding any of the books above you can try advertising in *AA*'s small ads pages or writing to Waterstone's Book Search, 121- 125 Charing Cross Road, London, WC2H 0EA (very helpful folks).

And while I'm on the subject nip down to the bookshop right now and get a copy of the new Calvin and Hobbes book, *The Day's are Just Packed*; it's even better than the last one.

CPC Accessories

Multiface 2

If you've never had the pleasure of a Multiface 2 (get one from Romantic Robot ☎ 081 200 8870), then you've never lived. As the one who grabs all the games on this mag as well as writing about them I'd be lost without it. It's a necessity for anyone learning how to program; you can break into the code to see how the professionals deal with the various programming problems they encounter, and use what you learn in your own programs. Then there's all those lovely cheat POKEs to give you a hand with your game-playing. The Multiface is the ultimate CPC owner's accessory; don't leave home without it.



My life would be meaningless if it wasn't for this little black box. I love you Multiface 2.

- **ROMboard** (Siren Software ☎ 061 724 7572) ROM boards are the key to speed and the ROMboard is one of the easiest to use; installing the chips is a piece of cake.
- **3-inch disk drive** Wave (☎ 0229 870000) do a pretty funky 3-incher.
- **3.5-inch disk drive** Quantum (☎ 0446 746920) are the people you need to contact to get the best 3.5-inch disk drive around.
- **Epson LC20 Printer** Balancing up quality and price this is the best printer around by such a long way the others are just specks on the horizon. But get yourself an 8-bit KDS printer port as well so that you can have access to everything the printer has to offer (Amstrad only gave the CPC a 7-bit printer port for some odd reason).

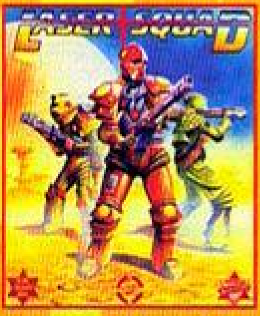
Extra stuff

- **Friends to talk to while you're waiting for your tape games to load.**
- **An *AA* binder so you can use the wire bits to make Topsy Tail hair stylers and flog them for £25 (not available in the shops).**
- **A Metallica T-shirt (every computer owner should have one).**
- **A Simon of your very own to help you out whenever you need a little assistance with the techy side of things.**
- **A pack of Disney plasters to protect the delicate tips of your fingers from blistering when you attempt to bash out every single Type-Ins program that *AA* has ever published.**

Role-playing games

Laser Squad

You can't go far wrong with Target Games' first release *Laser Squad*. Check out History Today on page 48 and you'll see that a large proportion of the ex-members of the *AA* crew voted it the best CPC game ever. The rame RPG strikes terror into platform freaks like Dave, but it's games like this that can convert them. Slyly slip it into your wussy bruv's playing agenda and before he even notices he'll be using his brain to an extent that you never thought possible. It takes you in nice and easy and the difficulty curve, as the levels progress, is perfectly set. (*And it looks dead lush too – Dave*).



Not much of a squad really – just three of 'em.

- **BAT** (UBI Soft). Beautiful-looking multi-screen extravaganza – role-playing heaven.
- **Bloodwych** (Image Works) *Dungeon Master* on your CPC, and done in the style it deserves.
- **Doomdark's Revenge** (The Beyond) 6,000 locations to explore with the choice of three powerful characters to play.
- **Lords of Midnight** (The Beyond) Huge instruction book, but an even huger game.

Puzzle games

Harvey Headbanger



The essence of a great puzzle game is simplicity; the easier it is to get the hang of, the easier it is to become addicted. A great puzzler should have what we in the trade call the 'just one more go' factor and the ability to fill your nightmares with coloured blocks, bombs or cute furry things (depending on the game in question). *Harvey Headbanger* (Microprose) is based on the simple premise of surrounding your opponent with blocks of your own colour. Graphically it breaks no barriers (in fact it sets the standard of CPC graphics back a few years). But it makes up for it in sheer playability. Just one go and you'll be hooked for life, I promise, cross my heart and hope to choke on one of my Mum's rock cakes.

- **Deflector** (Gremlin) Aim your laser using swivelable mirrors to blast your way to the exit.
- **E-Motion** (US Gold) Balls – I mean it in the nicest sense of the word; there are thousands of balls to contend with in *E-Motion*.
- **Revolution** (Vortex) Strangely nothing to do with overthrowing governments.
- **Xor** (Logotron) There's nothing delicate about this addictive puzzler.

Unclassifiables

Elite

Elite had to be in this list – there was no argument about that. What we did argue about was which category to put it in. And this is the result – 'Unclassifiables'. Hmmm, compromises, eh? Anyway, what can we say about *Elite* that hasn't been said already? Nothing really. So we won't. If you've got this mag presumably you've got the game anyway (if you haven't, go and buy *AA100* now you stingey pile of dingo's droppings) so you don't need to be told how good it is.

- **Head Over Heels** (Ultimate) Back in 1987 a couple of the names to drop into conversation were John Ritman and Bernie Drummond: they created one of the best isometric games ever, *Head Over Heels*. Head and Heels, the stars of the game, caught the hearts of many a CPC owner with their cute, little puppy-dog faces as they wandered around a strange land of puzzles, killer robots and doughnuts. Fantastic.
- **Sim City** (Infogrames) Town-planning nightmares. Can your city prosper or will it be destroyed by an earthquake? It's hard at the top.
- **Thrust** (Microprose), the classic gravity game with fantastic vector graphics.
- **Wizball** (Hit Squad), like a rubber ball it'll come bouncing back to your play list every time.



Elite being recommended as an essential game – I bet you didn't guess that was coming.

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Comparator

Want to find Multiface POKEs? That's all very well, but it's a lot of hassle, isn't it? Perhaps not any more, if Comparator does what it says it does. Simon finds out whether it does...

Do you remember the Gripper review in issue 97? Well this month sees a package called *Comparator*, which has been written by the same author, and is based on the same idea of saving a game with a Multiface and then being able to examine and dissect it with a set of utilities far more powerful than the Multiface's. But whereas *Gripper* dealt with ripping sprites out of games, *Comparator* mission in life is to find POKEs.



Love and marriage, love and marriage, go together like Comparitor and a Multiface... (doesn't scan).

The first thing I think I ought to make perfectly clear before going any further is that you will need to have a decent understanding of Machine Code in order to use this package; it won't make much sense to a total novice. On reflection, it would be quite approachable with just the bare minimum of Machine Code knowledge, but absolute beginners should steer clear.



And now, live from page 15, a grab of Comparator's title screen! Let's give it a big hand (then press a button and get on with the prgram).

The first thing you need to do is save out two versions of your chosen game with the black box. The reason for two versions is simple; the first needs to be saved at a start position and the second when you've lost one life. This allows the package to draw comparisons between the two versions and calculate where the number of lives, and therefore the lives decrement routine, is hidden within the program.

Getting down to business

The first thing you'll notice when you load *Comparator* up is that the package is almost identical to *Gripper* in design, and is therefore very well-structured, logical program making good use of things like menus. The actual technical aid it gives you in finding POKEs doesn't wrap you up

Page Publisher

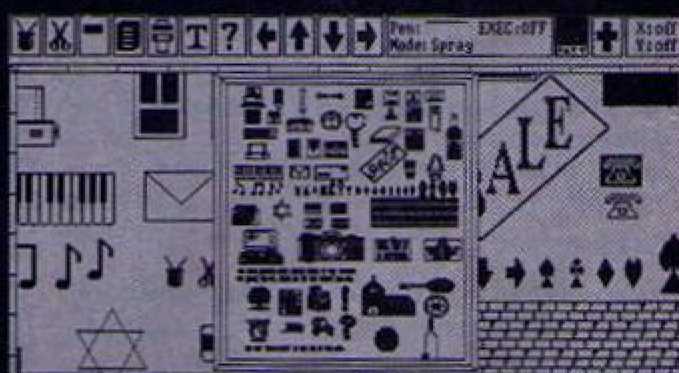
Not tempted by any of the packages mentioned in last month's DTP feature? Maybe you'd like Simon to check out another option...

The one company that has always stood out for quality practical business software at an affordable price has been SD Microsystems (just check out ish 93 for a full list). When they let us know about *Page Publisher*, then, we thought we'd better take a closer look.

Page Publisher is, to cut a long story short, a DTP package (if you don't know about DTP, try reading ish 99). This, unfortunately, means it falls into direct competition with the likes of *Stop Press*, *Micro Design* and *Power-page*, all fine programs. So let's go for a showdown.



Features, features and more features. Page Publisher's got more than I knew what to do with.



The Picture Disk contains around 400 snippets of clip art. Normally it costs £12.50 but if you buy Page Publisher and mention that you read this review you can get the Picture Disk for free. What a barg!

First up, features – how does it compare as far as flexibility's concerned? For any DTP package to be worth its salt, it has to include facilities for text windows, clip art, drawing and printing. I'm glad to say that *Publisher* has all the standard features, plus a few of the more advanced extras, putting it on a par with packages such as *Stop Press*. In fact, in the sheer amount of features included, it exceeds just about every package (probably even *Stop Press*) anyway.

I think that's the whole point here – this is a program written with the serious-

What's a POKE, then?

That's pretty simple, really. If you turn to the Cheat Mode section of this magazine, you'll find several game cheats, allowing you to play your favourite games with infinite lives, invulnerability, infinite weaponry, etc. There are two main types of cheat, the first being an in-built game cheat (usually known as keypress cheats), others being POKEs, which are listings that are typed in and run, which'll then load in the main game, alter it accordingly and run it. The third kind you'll come across is the Multiface POKE – you'll need a Multiface to run them, as they're entered when the game is frozen using the Multiface.

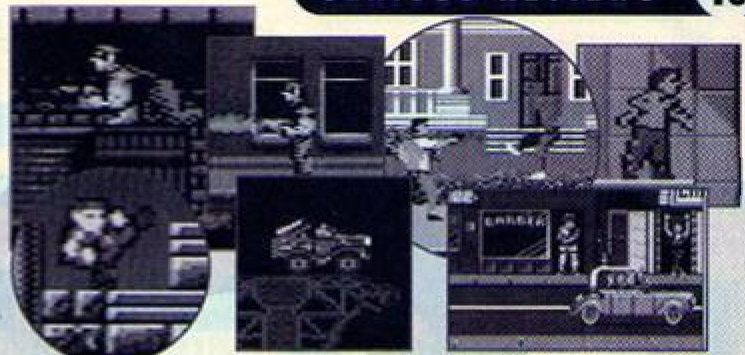
Anyway, the bit you need to know is that this package deals with finding Multiface POKEs – anyone without a Multiface won't be able to use this package at all.

in nearly as much cotton wool as *Gripper* did, though – sound technical knowledge is required.

That's right – when push comes to shove (whatever the hell that means), this is a package for the technically-minded, or failing that, all those that want to become technically-minded and are determined to learn. Sure, the utilities provided (the whole package is essentially an advanced suite of utilities) are useful, but they're nothing a proficient coder wouldn't write in order to POKE a game anyway.

What we end up with, then, is a package for people who want to start delving a little deeper into the games they're buying as well as getting a little more proficient in coding, but not for the hardened cracker. I'm afraid.

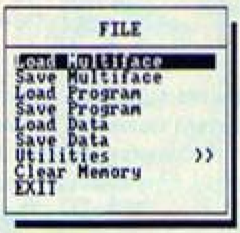
Having said that, this is no bad thing – *Comparator* has successfully bridged the gap by providing a utility that many people will find useful, and I'd strongly advise anyone who's serious about getting more out of their Multiface to seriously consider it.



Infinite lives, infinite energy, infinite weapons, infinite wisdom (perhaps not) – Comparitor gives you access to a game's innermost secrets.

Competition?

Of course, nothing is ever original, and it's easy to see where this package's roots lie; a while back it was possible to buy a package called *The Insider*, a program which sat in the Multiface and customised it heavily, providing better options and quite a lot of POKE-finding support. Though *The Insider* did sit in the Multiface, it still didn't offer quite as much in the way of utilities as *Comparator*, as the very nature of *The Insider* was that the data isn't stored anywhere other than the CPC's memory – *Comparator* stores the Multiface images on disk, allowing much easier access, plus room for errors, things like that, because any changes you make haven't permanently affected your memory image.



"Thanks Simon, it's really great to be here tonight. Is everybody having a great time?"

Details

PRODUCT: *Comparator*
PRICE: TBA
DETAILS: 128K only, needs a Multiface to run.
AVAILABLE FROM: Verysoft, 450 Roughwood Road, Wingfield Estate, Rotherham, South Yorkshire, S61 4LA
RATING: A useful package to some, but a bit too complex for anyone who hasn't got a good grasp of Machine Code.
80%

minded DTPer in mind. Sure, you could go out and buy a PC, but if you don't want to out your trusty steed of a CPC just yet, *Page Publisher* is about the closest you'll to PC quality DTP come without shelling out huge amounts of cash. Why do we like it?



● Money – Cash, dosh, dough, lucre. It's all the same in the end; how much will you be paying? You see, though being quite a nice little package, *Stop Press* does cost a fair bit, as you're also paying for a mouse. *Publisher* doesn't suffer these drawbacks, and so costs only £25 as opposed to £40 (but you can buy a mouse to go with it if you want).

● Swapping – No-one likes to spend their time stuffing disks into their disk drive because their software can't fit into memory. *Publisher* does fit, meaning that you load it, then put the disk away – you don't need it all the time.

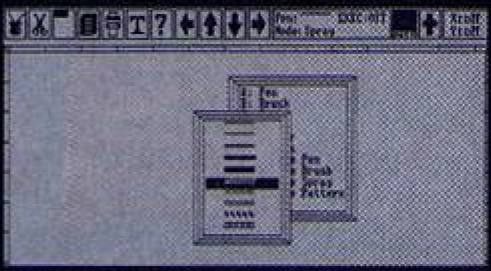
● Layout – One of the most saleable points of *Stop Press* (I think we can safely eliminate the rest of the competition here) was its easy-to-use on-screen presentation. It wasn't that it was overly user-friendly (we'll get to that in a minute), but that all the icons were nice and big, with everything where you'd expect to find it. Thankfully, *Publisher* seems set to carry on this trend, with a similar type of layout (and similar ease of use).

Nothing is perfect, however (except possibly me, of course), and so I think it's about time we covered the slightly gloomier side, even though there are just two downers:

● It's slow – You'll find yourself waiting through the odd pause while the program should be carrying out quite simple tasks. You'll need patience, basically.

● It's not exactly friendly – Sorry n'all, but if you're looking for overall friendliness, *Stop Press* is definitely the one to go for. But no DTP package is ever going to be that difficult to get the hang of, and a little perseverance will get you through.

In summary, then, what we have here is a DTP package that screams 'comprehensive'. There are a few minor drawbacks with the speed and ease-of-use (actually, to tell the truth, it's really quite difficult to use at first), but if you're serious about getting good quality results from your CPC and printer, *Page Publisher* is definitely an option to consider. Oh yeah, and apparently it's gone down a storm in France.



Page Publisher's main problem is that it's a bit slow. Defining windows is a real chore.



There is also a second Picture Disk available for £12.50 which can also be supplied in Stop Press format.

Details

PRODUCT: *Page Publisher*
PRICE: £25
DETAILS: 128K and disk only.
AVAILABLE FROM: SD Microsystems, PO Box 24, Swaffham, Norfolk ☎ (0760) 720381.
RATING: An incredibly useful package that just suffers a few problems when it comes to speed and friendliness.
85%

A-Z Encyclopaedia Volume 3:

Volume 3: It's a no-expense spared tour of the CPC world from S to Z. Your tour guide this issue is Dave Golder.

S

Save You know it makes sense. Whether you're in the middle of an adventure or filling in a spreadsheet the size of Mexico, save as often as you can. It'll save you from insanity, trust us.



Sector A unit of storage on a disk. The number of sectors you get on a disk depends on the size and format of the disk, but you get a set number of sectors per track. On a 3-inch disk you get 9 sectors per track and there are 40 tracks (ie, 360 sectors). Files have to be an exact number of sectors long. Disks are arranged like this to make a disk drive's life easier (see *AA92*).

Scandal Er, well there was this really good one involving CENSORED and CENSORED using a Multiface to CENSORED. But apart from that, Amstrad's development, promotion, marketing and generally whole handling of the Plus range and the GX4000 was pretty scandalous.

Shift What Simon does with copy. Oh yeah, and it's also a command in Assembly which shifts all eight bits in a byte one bit to the left or the right, which is handy for doubling or halving values respectively. Allegedly.

Shoot-'em-ups The bane of modern civilisation, reducing our children to emotionless, amoral monsters or a means of cathartic release of anger that would otherwise be directed towards more dangerous, real-world pursuits? Who cares? They're just great fun. Shoot-'em-ups are, quite simply, games in which the primary goal is to to shoot just about everything that moves. The original shoot-'em-up was *Space Invaders*, but these are *AA*'s pick of the CPC blasteramas:

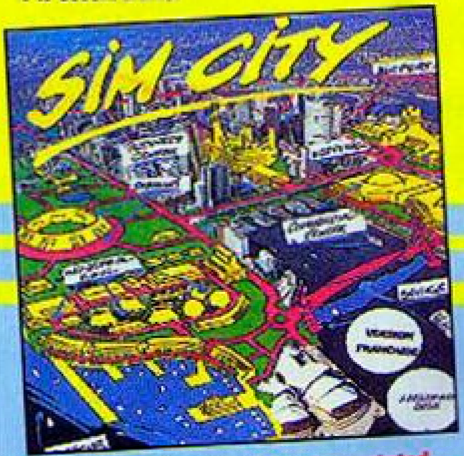
- *Starstrike 2*
- *R-Type*
- *Smash TV*
- *Ikari Warriors*
- *X-Out*





Seymour Variously described as a King Edward, a lump of lard, that second-rate Dizzy impersonator and the other cute one from Codemasters, Seymour was, in fact, created to front a game which was originally written for Dizzy, but he turned down in an attempt to grain credibility (he was going for a part in the RSC's version of *Omelette* at the time). So Seymour made his first appearance in *Seymour Goes To Hollywood* and subsequently in four other games deemed not worthy of the ovoid one – *Sergeant Seymour Robotcop, Seymour Stuntman, Super Seymour Saves The Planet* and *Wild West Seymour*.

Simulators Interactive games which (often extremely vaguely) approximate real world situations so that players can imagine that they are, for example, flying an aircraft or making managerial decisions. God games, like *Sim City*, are similar to simulators except that the situation is a hypothetical one. Sports sims aren't really sims at all because the relation between being able to run fast and waggle the joystick frantically is so tenuous that they're about as similar as *Neighbours* is to decent drama.



Warrington – new town or the mutated results of an experiment in applying Sim City to the real world? We should be told.

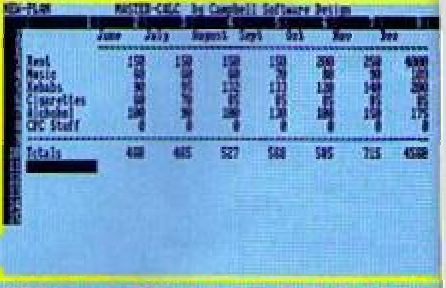
Siren Software They've been advertising in *AA* since issue one and these days they favour the half-page, yellow approach to advertising.

Software The programs, basically – the stuff that comes on disk, tape or cartridge and doesn't really have a physical form; it's just a load of data that tells the computer what to do.

Sound The CPC's sound is generated by the AY chip (which strangely also handles the keyboard). The CPC has a sound resolution of a 300th of a second; in other words it can change the note it is playing 300 times a second. This is the best by far of all the eight-bits, and the CPC is capable of producing some quite stunning sounds and music (see MUSIC in last month's Amstradica).

Source Code Right let's get this straight once and for all. Source code is program data written in a programming language such as BASIC or C. Before the source code can be run it has to be turned into object code, in other words Machine Code; to do this the source code needs to be Assembled or Compiled. (*Good, good. By George, I do believe he's got it – Simon.*)

Spellchecker A sort-of useful device that comes with word processors and checks your spelling. I say 'sort-of' because, for example, it can't tell whether you've used there or their in the right context. By the way, the crew's names put through a spell checker come out as Gave Older, Club Hedges, Handy Ousted and Summon Forester.



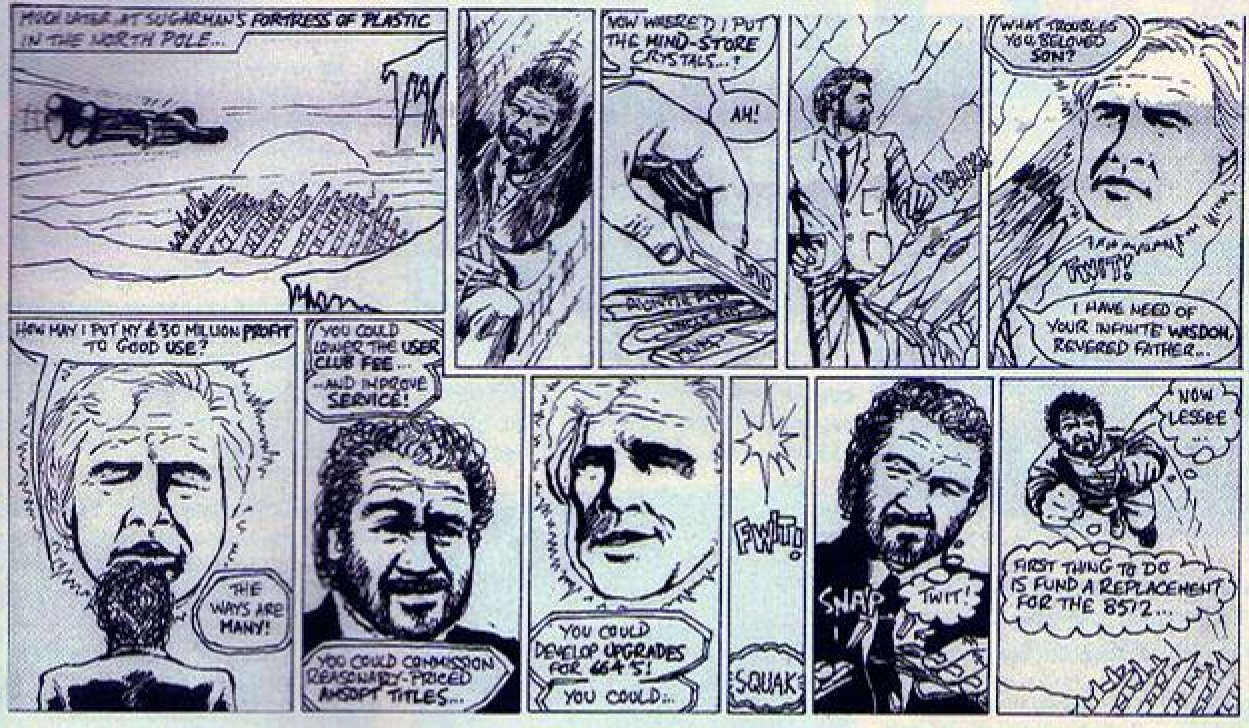
With a spreadsheet you can tell at a glance how much of a debauched life Simon leads.

Spreadsheet A program which displays a grid of cells in rows and columns. These cells can be filled with numbers, text or mathematical formulae. This means you can add up, subtract or do whatever you like (mathematically) to rows or columns of figures which makes spreadsheets dead useful for keeping track of things like accounts, cricket scores, record sales or the number of hours Simon wastes per month playing *Pang*. That's certainly what I use *MasterCalc* (from *AA95*'s covertape) for, at least.



Sprite A group of pixels that can be moved around the screen as one block. Most computers have what is known as hardware sprites; the CPC Pluses, for example, have hardware sprites which make manipulating sprites a

edia Amstradica



Back in the early days Alan Sugar was worth taking the mick out of for something other than bad footballing decisions.

Sugarman A comic strip that ran in early issues of *AA* which featured Alan Sugar as a superhero. Don't worry, it was ironic (it would have to be).

doddle; the routines for moving sprites are essentially built in to the computer and can be accessed easily for use in programs. Older CPCs don't have hardware sprites so sprite movement routines have to written into the programs.

CLASSIC GAME

Stormlord The game we featured on last month's covertape, so most of you will know why it's being mentioned here – it's stunningly good. A puzzly platform shoot-'em-up combination that looks dead lush. But did you realise that the version that came with *AA99* was actually censored? I'd be surprised if you didn't. But put it this way – it could be a collectors' item soon.

Stack An area of memory used for temporarily storing data in a FILO basis, which doesn't mean they're packed inside some light crusty pasty but is rather an acronym for First In Last Out (see last issue's Amstradica).

Strategy games Games in which strategy and planning are more important than speed, joystick dexterity or puzzle solving; in other words you have to plan ahead. There is a crossover with sims in that *Sim City* can be regarded as a strategy game, but *Laser Squad* is the supreme strategy game.

Street Fighter 2 – The longest running joke in *AA*'s history, but one that has finally come to a rather tragic end (see Amscene, page six).

Sub-routine A program within a program that performs a function that the main program can access a number of times.

Sugar, Alan – The head honcho at Amstrad who unleashed the CPC on to the world. These days he's more interested in football (specifically Spurs) than in the CPC.

Syntax Right you get it have to programming when or get you messages error.

CLASSIC GAME

Target Renegade If you're into ultra-violence in the Alex-from-Clockwork-Orange-sense of the word this is the game for you. You really can kick the villains when they're down. Plus there's a stonking two-player mode, a decent sense of progression, great graphics and



a really brilliant bit with a motorbike. Not everybody's cup off Earl Grey, it has to be admitted, but Trenton Webb loved it.



T



Tape Another word for cassette (see cassettes in Amstradica Part 1, but here's a quick summary – aaargh… slow… multiloads).

Techy Forum (Ask Alex) This bit of the mag, in which *AA* answers your technical queries and gives a few other tips out as well for good measure, used to be called Ask Alex. Now, in issue 100, we can reveal that Alex never existed. She was, in fact, Rod, who had a shave especially for the photoshoot.

A-Z Encyclopa

Trevor Who should have gone in the Gs for Gilham, but we forgot. Anyway, the reason this gent gets a mention is not just because he was *AA*'s first art editor, but because he designed our famous sideways logo. This was an innovation designed to make the *AA* cover stand out on the newsagents' shelves. It was widely copied by fanzines, and to this day sideways logos are used by *WACCI* and *CPC User*. It was a great idea until we introduced covertapes, when the bottom of the logo vanished and it looked like we were called *AMSTR*.

Twins Bub and Bob (*Bubble Bobble*, *Rainbow Islands*), The Darlings (CodeMaster), the Olivers (*Dizzy*), Rod Lawton and Bill Oddie...

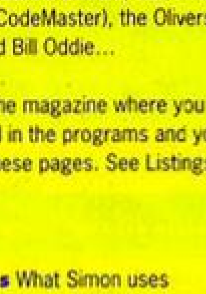
Type-Ins The bit of the magazine where you do the work – you send in the programs and you type them in. We like these pages. See Listings in Amstradica Part 2.

U

Underhand tactics What Simon uses shamelessly in any two-player game. Send an SSAE for a list of his favourites.

USA – There were rumours recently that the GX4000 finally found a distributor in the States and was on show at this year's CES (a large computer show in the US). The *AA* team was gearing up for a fact-finding tour of California and Florida when the whole thing was revealed to be a hoax started by a European fanzine (thanks Keith Woods for blowing the lid on that one).

CLASSIC GAME



Uridium Yet another classic game, yet another SF shoot-'em-up. Lots to do, lots to see, lots to blow up. Yep, it fulfils all the prerequisites satisfactorily. And it also must have been the most underrated game in AA's history. Gary Barrett awarded it a mere 68 per cent in issue 37; it is now regarded with the esteem it deserves (and I'm not just saying that because it'll be on the covertape soon – it's the truth, honest, guv).

User-friendly – Something that is easy to use. The ultimate in user-friendliness would be a computer or program that even Andy could use without having to read any manuals.

Utility Utilities and applications are often confused (*by you, mainly – Simon*). Utilities are programs which help the smooth running of the computer like disk operating systems such as *ParaDOS* or disk formatters like *MaxiDOS*. Applications are things like spreadsheets or databases where the computer is used ("or applied," he says in his best Open University voice) for some serious task not related to computer operations.

UAUG United Amstrad User Group, probably the largest CPC user group in the world. For their address see Amscene Directory on page seven.



Vector Graphics Graphics that are based on three-dimensional geometric shapes. The computer stores the three dimensional image in memory and then can reproduce it from any angle. *Elite* is an excellent example of wire-frame vector graphics where the shapes are comprised purely of edges and so look transparent. Filled vector graphics, like those used in Freescape games like *Driller*, look more like solid objects.

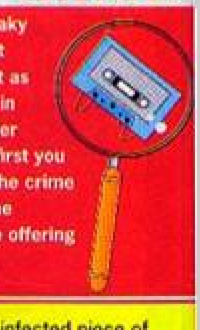
V

Variable A numerical value in a program that is not constant, ie, a value that has to be fed into the program by the user or one that will alter as the program runs its course.

Verify This is when the computer checks data that has just been saved or copied with the original data to make sure there are no discrepancies.

Virus Nasty little blighters, these. They're self-replicating programs that exist purely to be a nuisance. The extent of the nuisance can range from printing rude messages or reversing your controls to wiping whole loads of data. They are most dangerous if you have a hard disk so CPC users are relatively safe; the best thing to do if you suspect that you have an infected piece of software is switch off your computer, because then the virus, which can only have spread as far as RAM memory (so long as you haven't been swapping disks or tapes), will be lost with all the other data in RAM.

CLASSIC GAME



Vera Cruz Affair A freaky French slice of software that made *Wild Palms* look about as weird as a mini-roundabout in Croydon. It's a kind of murder mystery thing in two parts; first you have to study the scene of the crime for clues then interrogate the suspects. A typically bizarre offering from Infogrames.

Volume The volume at which Simon plays his White Zombie tapes is completely unacceptable – I mean, if you strain you can still actually hear them. Apart from that, volume has something to do with a partition on a hard disk.

W

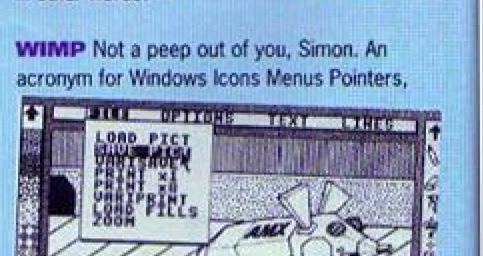
WACCI One of the longest-running CPC fanzines as well as one of the biggest-selling, it concentrates mainly on the serious side of the computer. For the address see Amscene Directory on page seven.

Wild Card Let's imagine the filename (with an incorporated wildcard) "SCREEN.*" – the star after the dots means that if this filename was placed after an erase instruction, "SCREEN.BAS", "SCREEN.BIN", and "SCREEN.SCR" would all be erased – the star is the wildcard. It's a bit like a Joker in a pack of cards in other words.



Joker's wild and so's a star in BASIC

WIMP Not a peep out of you, Simon. An acronym for Windows Icons Menus Pointers,

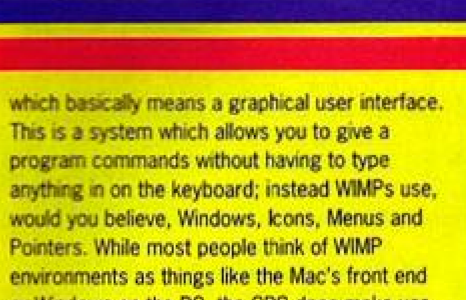


The best WIMP interfaces on the CPC tend to be found in art and DTP packages.

…edia Amstradica

which basically means a graphical user interface. This is a system which allows you to give a program commands without having to type anything in on the keyboard; instead WIMPs use, would you believe, Windows, Icons, Menus and Pointers. While most people think of WIMP environments as things like the Mac's front end or Windows on the PC, the CPC does make use of WIMP-style interfaces in certain programs such as *Advanced Art Studio*. WIMPS are User Friendly (he says rather pointlessly but well into the swing of all this cross-referencing lark).

Wordprocessor More than just a typewriter that lets you correct mistakes without gunging up the ribbon with Tipex, a wordprocessor gives you complete control over the characters you type in. With a wordprocessor you can select blocks to delete, move or copy; you can insert words into the middle of sentences; you can alter the format



I wanted to write a witty caption for Protext but I couldn't think of anything so I didn't (caption © Simon Forrester).

of the text, so that it prints out in italics, or all in capitals, or in a different font altogether; you can number each page automatically; the list isn't endless, but it is too long to carry on here. Want to know what the best word processor is? Well despite the fact that you were crawly enough to vote *Tasword* (from *AA*91's covertape) the readers' choice (see page 56), I still reckon that we have to recommend *Protext*.

Word Wrap This is a feature in text editors and wordprocessors which ensures that when a word is too long to fit on the end of one line the whole word drops to the start of the next line as opposed to breaking in two.

CLASSIC GAME

Wizball Armed only with a cat and a wizball Wiz the Wizard sets off to save Wizworld from the evil Zark. Yeah, well, zero points for nomenclature, but this game is right on the ball when it comes to to fast horizontally-scrolling action. Like all the best games it defies classification; it's sort of a puzzly, shoot-'em-up, cutesy platformer type thing. Well worth tracking down.





Write Protect If you've got some vital information on a disk that you don't want your computer to wipe accidentally then you can write protect the disk; this usually means moving a tab at one of the top corners of the disk to a certain position. This prevents the computer from writing on to that disk.



Wraparound A wraparound screen is one, like in *Asteroids*, in which if the sprites go off one side of the screen they reappear on the other side – there is no escape.

WYSIWYG What You See Is What You Get, or more usually, What You See Is What You Might Get If You're Very Lucky. It's usually applied to wordprocessing or DTPing where what you get out of the printer is what you see on screen (in theory at least).

CLASSIC GAME

Xenon A rather fab and groovy viewed-from-above SF shoot-'em-up from the Bitmap Brothers who were also responsible for the *Speedball* series and now are pretty huge on the Amiga scene with games like *Chaos Engine* to their credit. This early effort showed the first signs of their everything-but-the-kitchen-sink approach.



X

X-Modem A term used in computer communications and which refers to a protocol for the transmission of data along a wire; this process also includes checking for errors in the transmission. See also Y-Modem and Z-Modem. And why not MODEM as well while you're at it?

X-Rays It's not a very good idea to x-ray disks, it plays havoc with the data. That's why people put 'do not x-ray' on envelopes when they send disks through the post, which probably has the same effect on the post office as writing 'Fragile' on that 24-piece dinner set which ended up a 357-piece dinner set.

Y

Y-Modem See X-Modem. It's basically the same thing, but slightly different – this lets you transmit data in specific chunks.

Ye Ar Kung Fu One of the first ever Kung Fu combat games which initially appeared on the BBC and was rapidly adapted for all the other early 80s home computers.



We reckon the first oriental beat-'em-up was Ye Ar – anyone wanna disagree?

Z

Z-Modem See X-Modem. Or Y- Modem. This is getting silly.

Z80 The chip at the heart of the CPC (and the Spectrum) – its processor in other words. But did you know that that bane of modern civilisation, the Nintendo Game Boy is run by a modified version of the very same chip? You do now.



CLASSIC GAME

Zap'T'Balls The greatest CPC game ever? Well, we gave it 85 per cent, a darned impressive mark, yet CPC fans all over Europe were up in arms because they thought it was too low and accusing us of arrogance and bias. We stand by that mark, and, yes, we admit that from a technical point of view the game is a gobsmacker. But the gameplay? Certainly not the best ever, though an enjoyable enough romp (which, excuse if I'm wrong, we never denied).



Zap What you do to aliens in SF shoot-'em-ups.

Zat's all, folks – A pathetically contrived way to finish off the series.

Next Month: There won't be an Amstradica – we've run out of letters.

Venture Forth

It's time to get graphical in this final installment as Simon 'The Hairy Happening' Forrester gets out his easel and oils and paints a picture of what you need to do to put some art into your text adventures.

Graphical text adventures might sound like a contradiction in terms, but the text adventures don't have to be puritanical in their approach; pictures can be used to great effect without compromising the integrity of the art form.

Let's start by taking a look at our screen. If we quartered it, and used a box of that size for a picture, centred and at the top of the screen (with the text flowing underneath it), things would look quite smart. But how are we going to fill that little box?

There are two main ways we can approach this, and these are what they are:

- Use BASIC's line-drawing system to create simple pictures, and let 464 owners do without the fill command (making their pictures look, essentially, rubbish).
- Store the pictures as sprites (flippin' big ones), meaning each picture takes up about five kilobytes (this means they'll have to be stored on disk, essentially kissing goodbye to tape users).

Which one, then? That decision is entirely up to you – I'm going to show you both methods, and let you decide which part of the happily CPCing community to victimise by preventing them playing your game (not strictly true – if you're a disk user and you store the pictures as sprites, you can put in a little option allowing the user to turn the pictures off).

What was I talking about? I've completely lost my train of thought... I tell you what, though, it's pretty warm in here considering the weather outside, isn't it? A funny thing happened to me the other... (*get on with it, it's about graphics you fool – Dave*).

Inspiration

If you're really bothered about the state of your graphics, you might look to a few top games for inspiration.

- TWIN KINGDOM VALLEY – It was the first ever text adventure to use graphics, and believe me, it astounded everyone at the time; if the authors managed to add a new graphical twist to their game, we're quite sure you can, so experiment.
- MAGNETIC SCROLLS – The one company that stands apart from the rest for the graphics they use are Magnetic Scrolls. Games like *Guild Of Thieves* astounded the CPC-using public with the sheer beauty of their graphics. If you can emulate these in some way, you've really got a good adventure on your hands.

Do the sprite thing

If you want my advice (which presumably you do otherwise you wouldn't be reading this article) I'd suggest you do store them as sprites, as this method will allow you to use the facilities of an art package to draw your screens, instead of simply relying on filled polygons and straight lines.



I could talk all day, you know. I won't, though, because you're about to type in the following program, and you might not want to be disturbed.



Just as the little biker is a small little biker-shaped sprite, pictures in adventures can be huge rectangular-shaped sprites.

```
GAHE 10·FOR·addr=&8000·TO·&81BE
CADE 20·READ·a$
FAHO 30·POKE·addr,VAL("&"+a$)
DAOH 40·NEXT·addr
BAMF 50·END
LAKB 60·DATA·01,0E,80,21,0A,80,CD,D1,BC,C9,00
     ,00,00,00,16,80
LAID 70·DATA·C3,45,80,C3,9C,80,50,49,43,4C,4F
     ,C4,50,49,43,53
LAHJ 80·DATA·41,D6,00,7E,FE,FF,C8,CD,5A,BB,23
     ,C3,23,80,21,35
LAMB 90·DATA·80,CD,23,80,C9,50,61,72,61,6D,65
     ,74,65,72,20,65
LAKL 100·DATA·72,72,6F,72,FF,FE,01,C2,2E,80,D
     D,6E,00,DD,66,01
LAOL 110·DATA·7E,47,23,5E,23,56,EB,11,BF,81,C
     D,77,BC,21,BF,81
LAFM 120·DATA·CD,83,BC,CD,7A,BC,21,EF,81,22,7
     F,80,21,F7,80,22
LAMD 130·DATA·77,80,06,64,C5,ED,5B,00,00,21,1
     4,00,19,EB,21,00
LAAE 140·DATA·00,01,28,00,ED,B0,2A,7F,80,11,2
     8,00,19,22,7F,80
LAHH 150·DATA·2A,77,80,23,23,22,77,80,C1,10,D
     9,C9,FE,01,C2,2E
LAEF 160·DATA·80,21,BF,81,22,B5,80,21,F7,80,2
     2,B2,80,06,64,C5
LAIG 170·DATA·ED,5B,00,00,21,00,00,01,28,00,E
     B,ED,B0,2A,B5,80
LAMC 180·DATA·11,28,00,19,22,B5,80,2A,B2,80,2
     3,23,22,B2,80,C1
LAIK 190·DATA·10,DD,DD,6E,00,DD,66,01,7E,47,2
     3,5E,23,56,EB,11
LAAJ 200·DATA·BF,81,CD,8C,BC,21,BF,81,11,A0,0
     F,01,00,00,3E,02
LACM 210·DATA·CD,98,BC,CD,8F,BC,C9,00,C0,00,C
     8,00,D0,00,D8,00
LAPF 220·DATA·E0,00,E8,00,F0,00,F8,50,C0,50,C
     8,50,D0,50,D8,50
LALK 230·DATA·E0,50,E8,50,F0,50,F8,A0,C0,A0,C
     8,A0,D0,A0,D8,A0
LAJO 240·DATA·E0,A0,E8,A0,F0,A0,F8,F0,C0,F0,C
     8,F0,D0,F0,D8,F0
LADK 250·DATA·E0,F0,E8,F0,F0,F0,F8,40,C1,40,C
     9,40,D1,40,D9,40
LALI 260·DATA·E1,40,E9,40,F1,40,F9,90,C1,90,C
     9,90,D1,90,D9,90
LAHN 270·DATA·E1,90,E9,90,F1,90,F9,E0,C1,E0,C
     9,E0,D1,E0,D9,E0
LAEL 280·DATA·E1,E0,E9,E0,F1,E0,F9,30,C2,30,C
     A,30,D2,30,DA,30
LAKK 290·DATA·E2,30,EA,30,F2,30,FA,80,C2,80,C
     A,80,D2,80,DA,80
LANO 300·DATA·E2,80,EA,80,F2,80,FA,D0,C2,D0,C
     A,D0,D2,D0,DA,D0
LAML 310·DATA·E2,D0,EA,D0,F2,D0,FA,20,C3,20,C
     B,20,D3,20,DB,20
LAEK 320·DATA·E3,20,EB,20,F3,20,FB,70,C3,70,C
     B,70,D3,70,DB,70
LABF 330·DATA·E3,70,EB,70,F3,70,FB,C0,C3,C0,C
     B,C0,D3,C0,DB
```

This is a program that sets up two new commands for BASIC:

```
|PICLOD,"filename.pic"
|PICSAV,"filename.scr"
```

These two commands will load and save pictures respectively. When you draw your picture, make sure you draw it in the top left-hand quarter of the screen. Then use the PICSAV command, giving the filename of the screen you save out from the art package. The command will then take the image, and create a new file from it with the original filename (but with a .PIC extension as opposed to .SCR, .BIN or whatever).

This file can then be displayed by use of the PICLOD command from within your adventure, with the command loading and displaying the picture at the top of the screen, in a centred position.

Unfortunately, though, this is a command that will only really be effective for disk drive owners, as tape users would have a hell of a time storing all the images on a tape, making sure the tape position is before the image that needs to be loaded, and finally waiting a eon for the image to be loaded from tape – don't do it.



What shall I draw?

Well yes – I suppose that is a valid question. I suppose you want a valid answer as well, don't you? Right... Take a look at the following room description:

"The bright sunshine makes the meadow you're standing in look positively serene, as the gentle breeze ripples the lush green grass right the way to the towering northern rock face. Looking around, you can see a shape gleaming darkly on the ground ahead. As the grass sways gently in the breeze, the shape reveals itself to be a hand gun."

What should you draw in a picture accompanying this text? Well, there are any number of things you could include, but you must go to great lengths to ensure you DON'T include any of the following:

- Detailed grass rippling – It'd look like green sea, and would wreck the motion set up by the text.
- A gun – The text has told them all about it, and limiting your picture to a small enough area to show a gun means you'd effectively lose the bigger picture and the chance to show any atmosphere at all. Besides, once the user's taken the gun, you'd have to stop displaying the picture, wouldn't you?
- The player – You'll manage to alienate either your entire female audience if you draw a man, your entire male audience if you draw a woman, and 90 per cent of ethnic backgrounds if you give your player one. Besides, when was the last time you looked at scenery and saw yourself?

So many adventure games manage to lose the point of graphics completely – they're not supposed to play an active part in an adventure (we'll get to that in a mo'), but simply complement the text. As for the active role bit, well think about it for a minute – whatever you link to the pictures will show up the fact that there's loads more things that aren't linked (you can't expect the player to psychically predict when to take a good look at the pictures or not).

Your other problem with 'interactive' (in a sense) pictures is that there is always going to be a limit to the size of objects you can express on screen, and therefore only huge things will be noticed, unless you're into close up shots of bits of grass (and trust me, you're not).

Fastest draw in the west

So what can tape users do? Well, have you ever seen a *GAC* game? (*Yeah – they're rubbish, aren't they? – Dave.*) You'll notice, if the author of the particular game saw fit to include graphics, that they're not stored as images, but as component parts – you can watch each picture being built up of the various lines, curves, polygons, and fills. You too can do this, with a very simple BASIC technique that we've already used several times before – the DATA statement.

What we're going to do is assign each command a letter:

I – Ink
M – Move
D – Draw
F – Fill
P – Plot

So let's take a look at the data which you would need for drawing a square:

```
DATA 8
DATA I,2
DATA M,100,100
DATA D,200,100
DATA D,200,200
DATA D,100,200
DATA D,100,100
DATA M,150,150
DATA F,3
```

Wow, huh? Now all you have to do is write a little BASIC routine to read the number of components (stored in the first line) and act on them by jumping to subroutines that read the values from the statements and draw all the bits correspondingly:

```
READ a$
IF a$="M"THEN GOSUB xx
```

And the routine would read:

```
READ x
READ y
MOVE x,y
RETURN
```

Dead simple, eh? Alternatively, you could just jump to a little subroutine to draw a picture, having a separate little drawing routine for each location (or at least every location for which you want a picture).

After all that

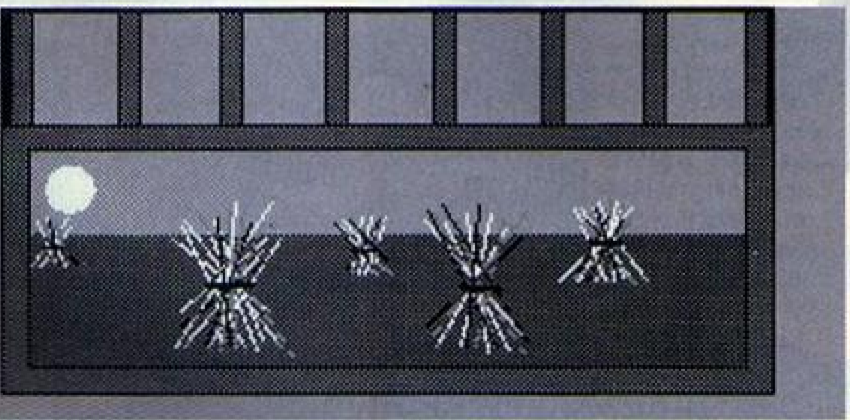
So at the end of the day, somehow, you have the facilities for putting pictures into your adventure. How do you use them wisely, though?

First off, we have to look at one side of a disk (assuming you ask the user, once the game's finished loading, to flip the disk on to the side on which you've stored all your pictures). Considering a disk can contain 178K and each picture will be 5K, you can store 35 pictures in total. If your adventure contains only 16 locations, you're set up for life. What if you've gone for a slightly more impressive 32, though? Well, pictures don't just have to be based on locations – what happens when you die? How about a nice little picture when you complete the adventure? Remember – a picture isn't just for Christmas, it's for life (or death).

Of course, owners of high capacity disk drives can fit a massive 160 pictures on a disk (because they've got 800K of space to play around with), but there are two reasons we can't deal with them:

1. That's a ridiculous number of pictures, quite frankly.
2. Not everyone's got high capacity drives, and we must try and cater for as many users as possible.

Hmm... as many users as possible, eh? Well that kind of cuts out disk-stored pictures altogether, doesn't it? Not really – there has to come a time when you restrict your target audience in one way or another, but at least saying 'disk only' is a darned sight better than '3.5-inch disk only'.



The picture you can see here (from the GAC game Justice by Angela Swinbourne) isn't a sprite, but a series of lines, fills and polygons – it's made up of individual elements.

And finally, Esther

So now you've got graphics in your adventure – wow, huh? In fact, what with the computer-controlled characters 'n' all, your adventure is as near to complete as makes no odds – anything still to be added, you can work out for yourself by now.

It's with that, then, that I'll finish this series. We've had great times together, but all good things must come to an end. You've been mollycoddled for long enough, so now it's time to go out into the big wide world and cope on your own. Good bye and good luck. We look forward to seeing some of your efforts.

Assembly Line

Since this month's beginners' guide to Machine Code programming is all about logic operations we've got to get, "That is illogical Captain," somewhere into this intro. Ah, it looks like we just have. Right, then, take it away, Simon...

Hi there, and this month in Assembly Line we're going to deal with logic operations on bytes. If you've been reading the series, we've already seen how each byte is split into eight bits; if you haven't... well, , I can feel one of Dave's Back Issues plugs coming any moment now.

What can we do with these eight bits, though? Well, first off... (*Simon explained all about bytes in AA92 which you can order using our Back Issues ordering service on page 57 – Dave.*) Hmmm, he's getting a bit slow in his old age. Anyway, back to business; we'll be taking a look at three different bitwise (that means they just relate to single bits) operations. For this, we'll be looking at what happens when bits a and b interact with each logic rule.

AND

The AND operation produces a 1 if both starting bits were 1 as well. If either of the two original bits were 0, the result is 0. The following AND sums might just clear things up a bit:

1 AND 1 = 1
1 AND 0 = 0
0 AND 1 = 0
0 AND 0 = 0

Getting the hang of it now? What we're effectively saying is that if a AND b are set, the result is 1.

OR

The OR operation is a whole lot simpler – if byte a OR b is 1, the result is 1. So let's have a few more sums:

1 OR 1 = 1
1 OR 0 = 1
0 OR 1 = 1
0 OR 0 = 0

Dead simple. Now on to the harder stuff.

XOR

First, how to pronounce it – 'ecksor', or 'zor' (it's entirely up to you). Secondly, how it works – it's very similar to OR, except for the fact that it's exclusive (that explains the X, then). What does this mean? Sums, please:

1 XOR 1 = 0
1 XOR 0 = 1
0 XOR 1 = 1
0 XOR 0 = 0

So its operation is exactly like OR, then, apart from the result when 1 is XORed with 1. This is the general purpose of XOR – to make that exception to the rule, and exclude that single condition. Why? Well...

Whole bytes

That's right – we're going to apply all this wonderfully thought out logic to whole bytes. Don't be scared – it's quite simple, really. So we'll need two numbers:

a	&4e	&x01001110
b	&e5	&x11100101

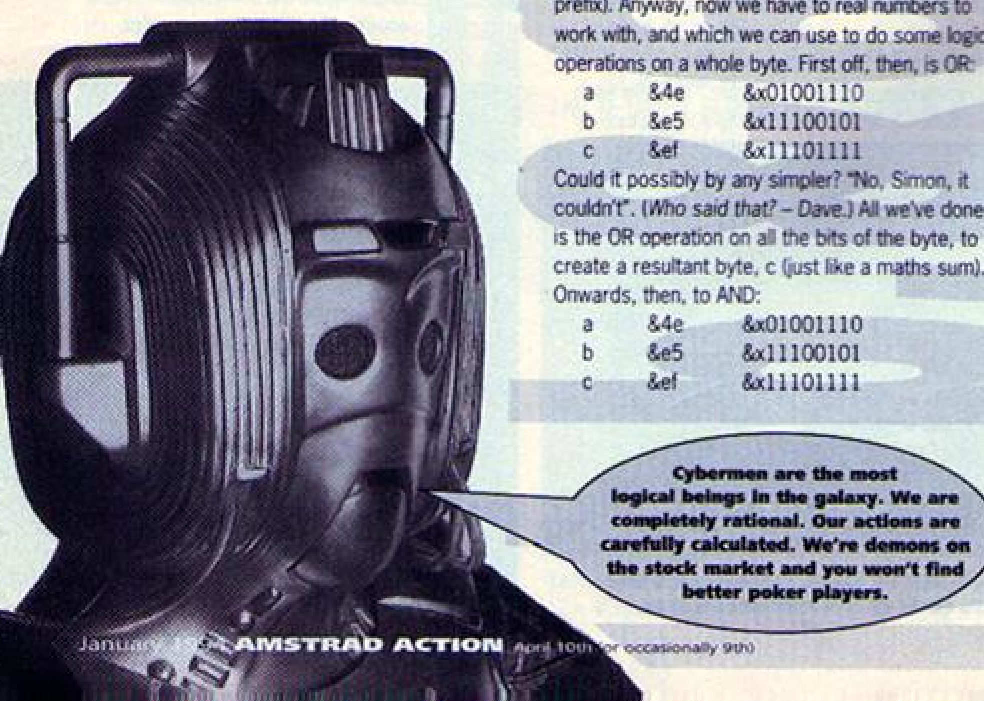
In case you're worried, the &x bit just signifies a binary number as opposed to a hex number (prefixed a &), or a decimal number (which has no prefix). Anyway, now we have to real numbers to work with, and which we can use to do some logic operations on a whole byte. First off, then, is OR:

a	&4e	&x01001110
b	&e5	&x11100101
c	&ef	&x11101111

Could it possibly by any simpler? "No, Simon, it couldn't". (*Who said that? – Dave.*) All we've done is the OR operation on all the bits of the byte, to create a resultant byte, c (just like a maths sum). Onwards, then, to AND:

a	&4e	&x01001110
b	&e5	&x11100101
c	&ef	&x11101111





Cracking the myth

Here's a common myth – most people seem to believe that if you want to really protect data, you should encode data first with one number, then with a second and a third, etc. This is, in fact, almost completely useless.

Let's say, for example, someone took a chunk of code, and encrypted it four times, with the bytes &d2, &1e, &f7, &34. You wouldn't really have to know all four numbers in order to decode it, as the decryption key is simply the result of all four numbers XORed together (&0f) – try it and see.

"But how can we discover that byte if we don't know the original four?" Well, this box was merely to prove that there is only one byte – read the box called 'Cracking the code' to discover how to find it...

Nothing to it! XOR, then:

a	&4e	&x01001110
b	&e5	&x11100101
c	&ab	&x1C101011

There now – simple stuff. "Is there anything I should know, though?" (*That was you throwing your voice – Dave.*) There sure is...

Reversibility

Take a look at the following equations:

1 a OR b = c
c OR b ≠ a

2 a AND b = c
c AND b ≠ a

3 a XOR b = c
c XOR b = a

In each case except the third one, the equations are irreversible (insert real numbers and test it, if you don't believe me); however, we can reverse XOR operations:

a XOR b = c
a XOR c = b
b XOR c = a

All of these are correct. "What use it that, though?" (*Simon The Amazing Voice Artiste is available for*





parties, bar mitzvahs and wedding receptions – Dave.) Funny you should mention that.

Uses of XOR

If you want uses, we got 'em. Let's take a look at the Assembly language operation first, though (so you understand the listing we're about to write):

```
ld a,&4e
ld b,&e5
xor b
```



The final command could have been replaced with either of the other logic instructions, as all three operate on the accumulator and another specified variable, leaving the result in the accumulator.

As for an actual use, try data encryption – taking a string of bytes, and XORing them with a code number. The following routine will do exactly that, and you can place it where ever you like (if you're not into making decisions, stick with &4000).

```
1     ld b,&67     code
2     ld hl,&c000 start
3     ld de,&4000 length
.loop :ld a,(hl)
5     xor b
6     ld (hl),a
7     inc hl
8     dec de
9     ld a,d
10    or e
11    cp 0
12    ret z
13    jp loop
```

As it happens, there are two uses of logic operations (well, the ones that we've been discussing, anyway) in this listing, so let's go through it line by line. Also bear in mind that the routine could have been a lot faster, but for now, we're keeping this simple, as quite a few of you are still getting used to code.

1 Here, we're loading b with our encryption byte (the number to XOR everything with). We've used b because it's available and isn't used later on.

2 Next, we load the start address of the block of code to be encrypted into hl...

3 ...and the length of the string of bytes to be encrypted into de.

4 (Loop) At the beginning of our main loop, we're taking the byte pointed to by hl, and placing it into a, using indirect addressing.

5 Next, we XOR that byte with the encryption byte held in b, the result being stored in a.

6 This result is then placed back into the address that the original byte came from.

7 We then have to increase hl to point to the next byte to be encrypted.

8 And de, the register we've assigned to monitor the length of the string, is decremented.

9 In order to check whether de has reached zero, we have to load the first half (d, oddly enough) into the accumulator.

10 Now we OR the e register into a as well, so that if either byte was anything above zero, the accumulator would be above zero as well.

11 Finally, we compare the contents of a with zero. This isn't strictly necessary, as the zero flag would have been set in the same way by line 10, but I thought I'd make things especially clear for all those still struggling.

12 If the accumulator did contain zero, meaning that de was also empty, the routine ends.

13 Failing that (if de still contained a value), we jump back to line 4 (represented by a label, remember, not a line number).

So, in effect, what we have is a really effective encoding routine, because to decrypt the new string of bytes, all you have to do is run the program again.

What next?

There are a few other uses for the other logic operations, though. First you can use it as a slightly more useful number handling system. Let's say, for instance, you wanted to take an 8-bit number, such as &d7, and look at only the first four bits of the number:

```
ld a,&d7
and &0f
```

The accumulator will hold the modified number. See if you can work out exactly how that last bit works, because it might help you understand a little more about bitwise logic operations. But if you're still struggling in four weeks, don't panic, because I'll be giving you the answer in the next installment of Assembly Line.

Till then, have fun...

AA

Cracking the code

As we've seen, XOR is used quite effectively to encode huge bits of data. There is still a way of cracking the system, though, even when you don't know the correct XOR byte. Take a look at the following equation:

o = original byte
e = encoded byte
x = XOR byte
So, if o XOR x = e
then e XOR o = x

Therefore if we can find just one byte that we know the original state of, we can work out the XOR byte. In large chunks of code, you're bound to come across certain repetitive byte sequences. In most cases, these will be strings of zeros (before they were encoded). So if you can find a string of ten or more identical bytes in a row, you can use the previous logic, and find the XOR byte (if the encoded byte is &d3, the XOR byte will also be &d3, as when you XOR a number with zero, nothing happens).

Incidentally, if you ever come across an encoded disk, and you find sectors full of identical bytes, the original one was more than likely &e5.

Next month

JACK: It's not safe to stay here – your father's going to pick up our trail before long.
JILL: But what about the other register operations?
JACK: Well, God, and of course Hairy, permitting, we could be shifting registers.
JILL: Oh we must, Jack, we must.
JACK: Rest now dear, as the Happening will soon be upon us. In 30 days, in fact.
JILL: Nobody deserves that fate.

You never know, it could happen... So make sure you're here if it does.



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Type-Ins

Loads of lovely listings for the discerning DIY programming enthusiast. Collation, annotation, sanitation and additional information courtesy of that Simon Forrester chap.

Clock

It's always been a pity that the CPC didn't have a built-in real-time clock. It looks like R S Meston is part of the way to a solution, though, with this interrupt-driven clock-type thingy.

```
HAMJ 10·REM·>Interrupt·Clock
GAGB 20·REM·>By·R.S.Meston
DAAM 30·REM·>11.07.1993
FAFJ 40·'Set·up·memory
DAFJ 50·MEMORY·39999
FAAL 60·'Install·clock
CACD 70·ln=220
IAJB 80·FOR·addr=40000·TO·40151·STEP·13
CAKE 90·READ·a$
HAMG 100·FOR·countx=1·TO·26·STEP·2
IAMJ 110·dta=VAL("&"+MID$(a$,countx,2))
FACA 120·POKE·addr,dta
EADI 130·addr=addr+1
EACM 140·chk=chk+dta
BAFP 150·NEXT
EALL 160·addr=addr-13
BBHP 170·IF·chk<>VAL("&"+MID$(a$,27,3))·THEN·
     PRINT·"Error·in·line";ln:END
FADB 180·ln=ln+10:chk=0
BAJP 190·NEXT
CACO 200·CALL·40000
CAKO 210·GOSUB·340
IAFN 220·DATA·01CF9C21499CC3D1BCFCA6CF9C7CF
IAOH 230·DATA·DD7E0032369EDD7E0232359EDD5A0
IAKD 240·DATA·7E0432349E3E00327A9C21719C43A
IAAE 250·DATA·117B9C010081CDD7BCC90000004D3
HAKO 260·DATA·00000000000003A7A9C3C327A238
IAKI 270·DATA·9CFE322801C93E00327A9CF5C55FE
IAML 280·DATA·D5E5CD989CE1D1C1F1C93A369E8F6
IAOD 290·DATA·3C32369EFE3C2801C93E003236414
IAII 300·DATA·9E3A359E3C32359EFE3C2804CD51F
IAEG 310·DATA·7E9FC93E0032359E3A349E3C324A3
IABH 320·DATA·349EFE0D2801C93E0032349EC94DA
IANE 330·DATA·D49CC34D9C54494DC5000000004CB
EAJM 340·'Operation:
CAPC 350·MODE·2
MABH 360·PRINT·"Interrupt·Clock·Installed."
CAHE 370·PRINT
IAPK 380·INPUT·"Enter·hour:",hour
KAIF 390·INPUT·"Enter·minute:",minute
KAEC 400·INPUT·"Enter·second:",second
IBLK 410·|TIME,hour,minute,second:'This·sets·
     up·the·clock·at·the·right·time.
```



With an interrupt clock, you can, erm, do lots of useful things, like tell the time!



Minehunting is a cruel and barbaric sport – the defenceless mines don't stand a chance.

```
CADE 420·PRINT
FDAB 430·PRINT·"The·clock·is·setup·now,·and·w
     ill·run·independantly·of·any·other·progr
     ams.···Evenwhen·using·basic,·the·clock·w
     ill·still·continue·to·operate."
CAFE 440·PRINT
BBKL 450·PRINT"The·time·is·store·in·memory,·a
     t·locations:"
PANH 460·PRINT"40500·-·hours,·40501·-·minutes
     ,·40502·-·seconds"
CAIE 470·PRINT
GAND 480·PRINT"By·typing:"
KBAO 490·PRINT"hour=PEEK(40500):minute=PEEK(4
     0501):second=PEEK(40502):PRINT·hour,minu
     te,second"
MACG 500·PRINT"the·time·will·be·displayed."
CADE 510·PRINT
FBLC 520·PRINT"See·lines·530·onwards·of·this·
     program·for·an·example."
PAPP 530·hour=PEEK(40500):minute=PEEK(40501):
     second=PEEK(40502)
CBCH 540·LOCATE·1,20:PRINT"The·time·is·now:";
     hour;minute;second
CALK 550·GOTO·530
```

Minehunt

Some of you may have played a similar game on a PC or Apple Mac. The basic idea is to minehunt over a series of squares. That's all there is to it, but the strategy involved once you get started should keep you hooked for a while. A word of warning, though – this game is 6128 only.

```
DAAD 10·'·MINEHUNT
FANA 20·'·@·W·R·Blunt·1993
JAFE 30·MODE·1:LOCATE·17,3:PRINT"MINEHUNT"
GAHJ 40·LOCATE·17,4:PRINT"--------"
MBOJ 50·PRINT:PRINT:PRINT"····A·game·needing·
     speed,logic·and···········luck·to··clear
     ·the·minefield"
DAKN 60·PRINT:PRINT
IAOH 70·DIM·A(41,21):DIM·B(41,21):DIM·C(41,21
     )
AAPK 80·'
PAJM 90·INK·1,24:PEN·1:INPUT"Do·you·want·inst
     ructions";A$
FAPJ 100·IF·A$=""·THEN·GOTO·100
KAHN 110·IF·A$="Y"·OR·A$="y"·THEN·GOSUB·1000:
     GOTO·130
IAHC 120·IF·A$="N"·OR·A$="n"·THEN·GOTO·130
BAGJ 130·CLS
GAOB 140·PRINT"1.··EASY":PRINT
IAJC 150·PRINT"2.··INTERME)IATE":PRINT
GAIM 160·PRINT"3.··EXPERT":PRINT
JAIO 170·INPUT"Choose·level·1,·2·or·3";A$
EAGF 180·IF·A$=""·THEN·180
GABF 190·IF·A$="1"·THEN·GOSUB·1100
GAME 200·IF·A$="2"·THEN·GOSUB·1120
GAAF 210·IF·A$="3"·THEN·GOSUB·1140
BBCM 220·PRINT:PRINT:INPUT"Do·you·want·to·set
     ·a·time·limit";E$
EACF 230·IF·E$=""·THEN·230
GADP 240·IF·E$="Y"·OR·E$="y"·THEN·260
JAEM 250·IF·E$="N"·OR·E$="n"·THEN·T=1000:GOTO
     ·270
MACK 260·PRINT:INPUT"How·many·minutes·(max·10
     00)";T
CAFL 270·SEC=T*60
GAHN 280·TOTSHOT=XDIM*YDIM:CLS
KACF 290·SHOTS=0:INK·0,1:INK·2,6:INK·3,18:INK
     ·1,12
HAJJ 300·SYMBOL·AFTER·208:CURSOR·0,0
IAIL 310·SYMBOL·208,85,170,85,170,85,170,85,1
     70
XAPJ 320·WINDOW#3,1,40,24,25:PAPER#3,3:PEN#3,
     2:CLS#3
MADA 330·WINDOW#1,1,40,21,25:PAPER#1,3:PEN#1,
     2:CLS#1:PEN·1
FCJD 340·MOVE·XSTART,YSTART:DRAW·XSTART+16*XD
     IM+2,YSTART:DRAW·XSTART+16*XDIM+2,YSTART
     +16*YDIM+2:DRAW·XSTART,YSTART+16*YDIM+2:
     DRAW·XSTART,YSTART
PAGA 350·LOCATE·6,20:PRINT"Please·wait....lay
     ing·mines"
PAFN 360·FOR·X=1·TO·40:FOR·Y=1·TO·20:A(X,Y)=0
     :B(X,Y)=0:C(X,Y)=0:NEXT·Y,X
CAMD 370·PRINT#2,CHR$(22);CHR$(1)
DAEK 380·FOR·A=1·TO·M
LAFD 390·B=TLX+INT(RND*XDIM):C=TLY+INT(RND*YD
     IM)
GAJH 400·IF·B(B,C)=1·THEN·GOTO·390
CAHC 410·B(B,C)=1
CACF 420·NEXT·A
MALO 430·FOR·X=TLX·TO·(TLX+XDIM-1):FOR·Y=TLY·
     TO·(TLY+YDIM-1)
BADH 440·N=0
GAIK 450·IF·B(X,Y)=1·THEN·GOTO·550
GADK 460·IF·B(X+1,Y+1)=1·THEN·N=N+1
GAIE 470·IF·B(X,Y+1)=1·THEN·N=N+1
GAHK 480·IF·B(X-1,Y+1)=1·THEN·N=N+1
GAKE 490·IF·B(X+1,Y)=1·THEN·N=N+1
GAEE 500·IF·B(X-1,Y)=1·THEN·N=N+1
GABK 510·IF·B(X+1,Y-1)=1·THEN·N=N+1
GAGE 520·IF·B(X,Y-1)=1·THEN·N=N+1
GAFK 530·IF·B(X-1,Y-1)=1·THEN·N=N+1
CADL 540·A(X,Y)=N
CAGP 550·NEXT·Y,X
HAFI 560·LOCATE·5,20:PRINT·SPACE$(34)
```

Lines 450-530

Though maybe not being so relevant in the, 'wow, what a fab new trick' stakes, these lines are well worth mentioning as an illustration of dimensioned variables.

If you take a look at line 70, you can see the variable 'B' being dimensioned, and these dimensions are accessed in lines 450–530. The reason this is highlighted is that it's an illustration not only of a dimensioned array being accessed, but of the fact that they can be accessed with equations (such as x+1, y+1) as well as straight variables (x, y).

Lines 590-620

And here's an alternative method of reading a user's inputs (some people still use the INPUT command for single character entries – a method which, if you ask me, is a bit messy).

The idea of INKEY$ is that it reads the keyboard port when it's used – if you typed in the following program...

```
10·IF·INKEY$=" "·THEN·END
20·GOTO·10
```

...it would loop until the user pressed the space bar, at which point it would end. What the lines here show is the use of INKEY as a variable rather than a string (indicated by INKEY$). The basic idea is that the value for a key number (look them up in your manuals, folks) is -1 unless it's being pressed. These commands, then, are simply checking whether the keys needed hold -1 and if not, taking action.

```
LAAP 570·LOCATE#1,1,3:PRINT#1,"Time·limit····
     ··=";SEC
MAAJ 580·POSX=TLX:POSY=TLY:LOCATE·POSX,POSY:C
     URSOR·1,1
MAPL 590·IF·INKEY(8)<>-1·THEN·POSX=POSX-1:LOC
     ATE·POSX,POSY
MAOK 600·IF·INKEY(1)<>-1·THEN·POSX=POSX+1:LOC
     ATE·POSX,POSY
MACL 610·IF·INKEY(0)<>-1·THEN·POSY=POSY-1:LOC
     ATE·POSX,POSY
MADL 620·IF·INKEY(2)<>-1·THEN·POSY=POSY+1:LOC
     ATE·POSX,POSY
MAHK 630·IF·POSX<TLX·THEN·POSX=TLX:LOCATE·POS
     X,POSY
ABCM 640·IF·POSX>(TLX+XDIM-1)·THEN·POSX=(TLX+
     XDIM-1):LOCATE·POSX,POSY
```

Line 710

Here you can see the command that makes this listing a 6128 only affair – CLEAR INPUT. The command itself simply clears the keyboard buffer, so that keys which are pressed before the program reached this point are cleared from the buffer. For instance, if you list a program, you can start typing before the listing has finished being displayed – the keys you type are stored in the buffer until the program could get around to processing them properly.

```
MANK 650·IF·POSY<TLY·THEN·POSY=TLY:LOCATE·POS
     X,POSY
ABKM 660·IF·POSY>(TLY+YDIM-1)·THEN·POSY=(TLY+
     YDIM-1):LOCATE·POSX,POSY
HAJB 670·IF·SHOTS=0·THEN·GOSUB·790
GALM 680·IF·SHOTS=0·THEN·GOTO·710
BBLE 690·LOCATE#1,1,2:PRINT#1,"Seconds·elapse
     d·=";INT(TIME/300)-DATUM
BBOJ 700·IF·SEC<(INT(TIME/300)-DATUM)·THEN·GO
     SUB·1230:GOSUB·890:MODE·1:GOTO·80
GBAH 710·CLEAR·INPUT:IF·B(POSX,POSY)=1·AND·IN
     KEY(62)<>-1·THEN·GOSUB·940:GOSUB·890:MOD
     E·1:GOTO·80
FBKD 720·CLEAR·INPUT:IF·INKEY(62)<>-1·AND·B(P
     OSX,POSY)=0··AND·C(POSX,POSY)=0·THEN·GOS
     UB·800
AELH 730·CLEAR·INPUT:IF·INKEY(38)<>-1·AND·C(P
     OSX,POSY)=1·THEN·GOSUB·1160
AEAF 740·CLEAR·INPUT:IF·INKEY(38)<>-1·AND·C(P
     OSX,POSY)=0·THEN·GOSUB·850
BEPA 750·IF·SHOTS=TOTSHOT·AND·M=0·THEN·GOSUB·
     870:GOSUB·890:MODE·1:GOTO·80
PAEF 760·LOCATE#1,1,1:PRINT#1,"Mines·remainin
     g·=·";USING·"##";M
KAPJ 770·LOCATE#1,25,1:PRINT#1,"Shots·=·";SHO
     TS
CAGL 780·GOTO·590
HAPL 790·DATUM=INT(TIME/300):RETURN
LAFO 800·IF·A(POSX,POSY)>0·THEN·GOTO·810·ELSE
     ·GOTO·820
OAEO 810·LOCATE·POSX-1,POSY:PEN·1,1:PRINT·A(P
     OSX,POSY):GOTO·840
KAAP 820·LOCATE·POSX,POSY:PEN·1,1:PRINT·CHR$(
     207)
KADP 830·LOCATE·POSX,POSY:PEN·2,1:PRINT·CHR$(
     208)
BBMC 840·C(POSX,POSY)=1:SHOTS=SHOTS+1:PEN·1,1
     :LOCATE·POSX,POSY:RETURN
KAJP 850·LOCATE·POSX,POSY:PEN·3,1:PRINT·CHR$(
     229)
CBNJ 860·C(POSX,POSY)=1:SHOTS=SHOTS+1:M=M-1:P
     EN·1,1:LOCATE·POSX,POSY:RETURN
OBLA 870·CLS#1:LOCATE#1,1,1:PRINT#1,"Well·don
     e!··You·cleared·the·minefield·in";INT(TI
     ME/300)-DATUM;"seconds"
CAAK 880·RETURN
LEPA 890·CLEAR·INPUT:LOCATE#1,1,4:INPUT#1,"Pr
     ess·Y·for·another·game·or·any·other···ke
     y·to·END";A$
FAPK 900·IF·A$=""·THEN·GOTO·900
IAME 910·IF·A$="Y"·OR·A$="y"·THEN·GOTO·930
BACJ 920·END
CAMJ 930·RETURN
NBBM 940·CLS#1:LOCATE#1,1,1:PRINT#1,"BANG!·Yo
     u've·hit·a·mine.··You·can·see···where·th
     e·mines·were·placed."
NACP 950·FOR·X=TLX·TO·(TLX+XDIM-1):FOR·Y=TLY·
     TO·(TLY+YDIM-1)
KAHB 960·IF·B(X,Y)=1·THEN·GOTO·970·ELSE·GOTO·
     980
JAHB 970·LOCATE·X,Y:PEN·2,1:PRINT·CHR$(238)
CAMP 980·NEXT·Y,X
CACK 990·RETURN
MEOI 1000·MODE·2:PRINT"In·MINEHUNT,·you·have·
     to·locate·all·the·mines·in·a·minefield·w
     ithout·getting····blown·up.··Using·the·c
     ursor·keys,·you·press·M·where·you·think·
     a·mine·is·and·C·ifyou·think·there·is·no·
     mine·on·that·square.":PRINT
ECEP 1010·PRINT"When·you·press·M·a·green·mark
     er·will·appear,·indicating·where·you·thi
     nk·a·mine··is·located.":PRINT
IDGP 1020·PRINT"If·there·is·a·mine·where·you·
     press·C,·you·will·be·blown·up.··However,
     ·if·a·····hatched·square··appears,·then
     ·there·are·no·mines·in·the·surrounding·8
     ·squares."
CCDK 1030·PRINT"If·a·number·(1-8)·appears,·th
     ere·are·that·number·of·mines·in·the·surr
     ounding·8··squares":PRINT
DCHF 1040·PRINT"If·you·wish·to·remove·a·green
     ·marker,·place·the·cursor·on·the·green·m
     arker·and··press·M":PRINT
ECFC 1050·PRINT"In·this·way·you·should·be·abl
     e·to·locate·all·the·mines·and·clear·the·
     minefield.·Good·Luck!":PRINT
OAAE 1060·CLEAR·INPUT:INPUT"Press·S·to·play·a
     ·game";A$
GANA 1070·IF·A$=""·THEN·GOTO·1070
MAHC 1080·IF·A$="S"·OR·A$="s"·THEN·GOTO·1090·
     ELSE·GOTO·1070
EAKH 1090·MODE·1:RETURN
PACA 1100·XDIM=8:YDIM=8:M=10:TLX=17:TLY=7:XST
     ART=255:YSTART=175
CADM 1110·RETURN
PACF 1120·XDIM=16:YDIM=16:M=40:TLX=13:TLY=3:X
     START=191:YSTART=111
CAFM 1130·RETURN
PAEA 1140·XDIM=30:YDIM=16:M=89:TLX=6:TLY=3:XS
     TART=79:YSTART=111
CAHM 1150·RETURN
FBPE 1160·CLS#3:LOCATE#3,1,1:PRINT#3,"Do·you·
     want·to·delete·this·marker·(Y/N)?"
LAFA 1170·LOCATE#1,19,2:PRINT#1,INT(TIME/300)
     -DATUM
IAFD 1180·IF·INKEY(43)<>-1·THEN·GOTO·1210
IAKD 1190·IF·INKEY(46)<>-1·THEN·GOTO·1220
DAFA 1200·GOTO·1170
EBLB 1210·LOCATE·POSX,POSY:PEN·0:PRINT·CHR$(1
     43):M=M+1:SHOTS=SHOTS-1:C(POSX,POSY)=0
CBMG 1220·CLS#3:PEN·1,1:LOCATE·POSX,POSY:LOCA
     TE#1,19,2:PRINT#1,SPACE$(5):RETURN
FCBM 1230·CLS#1:LOCATE#1,1,1:PRINT#1,"BANG!··
     You've·time·expired·and·been·····blown·u
     p.··You·can·see·where·the·mines··were·pl
     aced"
OALB 1240·FOR·X=TLX·TO·(TLX+XDIM-1):FOR·Y=TLY
     ·TO·(TLY+YDIM-1)
KACJ 1250·IF·B(X,Y)=1·THEN·GOTO·1260·ELSE·GOT
     O·1270
JAAE 1260·LOCATE·X,Y:PEN·2,1:PRINT·CHR$(238)
DAGC 1270·NEXT·Y,X
CALM 1280·RETURN
```

Wot

For disk users everywhere, this is a handy little system for storing notes about the various files on a disk. It's very easy to get along with, so you shouldn't have too much trouble. However, whoever sent it to us totally forgot to include his name, so to Mr X – thanks.

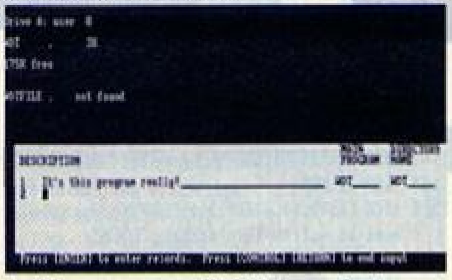
```
KAJG 10·MODE·2:CAT:DIM·a$(64):DIM·b$(64):DIM·
     c$(64)
MAAD 20·WINDOW#1,3,80,14,23:INK·2,1:PAPER#1,1
     :PEN#1,2:CLS#1
EAFN 30·ON·ERROR·GOTO·110
DALD 35·files=30
FALI 40·OPENIN"wotfile"
FAIG 50·FOR·x=1·TO·files
```

Line 870

Now here are a few extra variables that you might be interested in. First off, then, TIME. This is actually a variable that increments by one every 300th of a second from the last soft reset. This is, surprise, surprise, handy for timing things – if you recorded TIME in a variable at the start of an operation (using something like st=TIME), then recorded TIME after the operation (ft=TIME) you could calculate the elapsed time between the two commands as ft-st/300 (this gives a result in seconds).

So sure, the CPC doesn't have a real-time clock, but that shouldn't stop you using timers and even clocks within your own programs. That is, in fact, what's been done in *Minehunt*, showing the player how many seconds it took them to clear the field, using a system not dissimilar to the one we've just looked at.

```
GAKL 60·IF·EOF·THEN·x=30:GOTO·100
DANO 70·INPUT#9,a$(x)
DAPO 80·INPUT#9,b$(x)
DARP 90·INPUT#9,c$(x)
EAHD 100·NEXT:CLOSEIN
ACJK 110·LOCATE·4,24:PRINT"Press·[ENTER]·to·e
     nter·records.··Press·[CONTROL]·[RETURN]·
     to·end·input";:PRINT·SPC(36)
GACB 120·PRINT#1,·TAB(60)"MAIN";
HABH 130·PRINT#1,·TAB(69)"DIRECTORY"
GAFK 140·PRINT#1,"·DESCRIPTION";
GAIO 150·PRINT#1,TAB(60)"PROGRAM";
FAAO 160·PRINT#1,·TAB(69)"NAME"
CAJJ 170·PRINT#1
FAMJ 180·FOR·x=1·TO·files
```



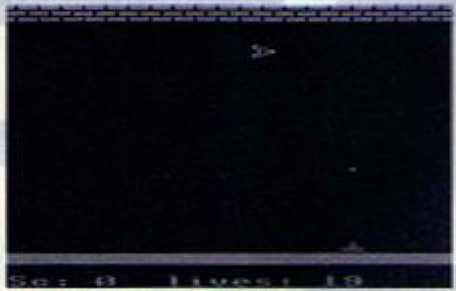
Is this a program called Wot, or what? Wotsits, that's what. What? Never mind.

```
IAMO 190·PRINT#1,""x;:PRINT#1,TAB(6)a$(x);
KAAI 200·a=LEN(a$(x)):b=LEN(b$(x)):c=LEN(c$(x
     ))
IADA 210·IF·a=0·THEN·GOSUB·420:GOTO·290
HALC 220·PRINT#1,·STRING$(51-a,"_");
FAFJ 225·b$(x)=UPPER$(b$(x))
GACA 230·PRINT#1,·TAB(59)b$(x);
HAAA 240·PRINT#1,·STRING$(8-b,"_");
FAFJ 250·c$(x)=UPPER$(c$(x))
CAHA 260·PRINT#1,·TAB(69)c$(x);
GAJN 270·PRINT#1,·STRING$(8-c,"_")
GABG 275·WHILE·INKEY(6)=-1:WEND
HADD 280·IF·x=e·THEN·GOSUB·410:e=0
BAKP 290·NEXT
PAMO 300·IF·x=files·THEN·PRINT"no·more·files·
     available
LBKM 310·LOCATE·4,24:PRINT"[CONTROL]·-·[S]·to
     ·save·-·DEL]·to·delete·-·[CLR]·to·quit·-
     ·[COPY]·to·edit"
FAOA 320·go=0:WHILE·go=0
HABD 330·IF·INKEY(79)=128·THEN·go=1
HAJC 340·IF·INKEY(60)=128·THEN·go=2
HAMC 350·IF·INKEY(16)=128·THEN·go=3
HAAA 360·IF·INKEY(9)=128·THEN·go=4
JAEO 370·WEND:IF·go=1·THEN·GOSUB·560:GOTO·110
EADL 380·IF·go=2·THEN·500
IAMH 390·IF·go=4·THEN·GOSUB·600:GOTO·110
BALI 400·END
IAAI 410·PRINT#1,"";:LOCATE·#1,6,VPOS(#1)-1
JAMH 420·WHILE·INKEY(6)=0:WEND:CLEAR·INPUT
IAKB 425·INPUT#1,;"",a$(x):a=LEN(a$(x))
JAJB 430·IF·INKEY(18)=128·THEN·x=30:RETURN
HAPC 440·PRINT#1,·STRING$(51-a,"_");
IAAM 450·PRINT#1,·TAB(59):INPUT#1,;"",b$(x)
KAMF 460·b=LEN(b$(x)):PRINT#1,·STRING$(8-b,"_
     ");
IAEM 470·PRINT#1,·TAB(69):INPUT#1,;"",c$(x)
KAGC 480·c=LEN(c$(x)):PRINT#1,·STRING$(8-c,"_
     ")
CANJ 490·RETURN
GANB 500·OPENOUT"wotfile"
FAJJ 510·FOR·x=1·TO·files
EAIB 520·WRITE#9,a$(x)
EAKB 530·WRITE#9,b$(x)
EAMB 540·WRITE#9,c$(x)
FACL 550·NEXT:CLOSEOUT:END
KAGP 560·LOCATE·4,23:INPUT#1,"Delete·file·-·"
     ,d
GAAD 570·FOR·x=d·TO·files-1
KAGN 580·a$(x)=a$(x+1):b$(x)=b$(x+1):c$(x)=c$
     (x+1)
FAHI 590·NEXT:CLS#1:RETURN
EACL 600·PRINT#1:PRINT#1
LABA 610·INPUT#1,"·Edit·line·-·",e:CLS#1:RETU
     RN
```

The Last Lark

Finally this month, we have a game from TG Buckland – it's his first one, and we think that for a first ever game, it's quite good. Anyway, full instructions are in the game, so get typing.

```
CEHL 10·CLS:PEN·5:PRINT"The·user·defined·Grap
     hics·in·this·game·····are·used·by·kind·p
     ermission,from········'THE·AMAZING·AMSTR
     AD·OMNIBUS'················by·MARTIN·FAIR
     BANKS·················AND·INTERFACE·PUBL
     ICATIONS·1985.·········THANK·YOU":FOR·N=
     1·TO·3000:NEXT
LDLJ 20·CLS:LOCATE·1,6:PRINT"ALL·YOU·HAVE·TO·
     DO·IS·SHOOT·THE·INVADERS·BY·USING·THE·SP
     ACE-BAR,WHEN·YOU·FIRE···THE·ALIENS'·DEFE
     NCE·MECHANISM·BRINGS·IT·TO·A·HALT,HOPEFU
     LLY·IN·THE·RIGHT·SPOT················FOR
     ·YOU······················":FOR·N=1·TO
     ·3000:NEXT·N
CBON 30·MODE·0:INK·0,0:CLS:LOCATE·1,6:PEN·7:P
     RINT"···INVADERS·OF·THE·······LOST·LARK"
FCKI 40·LOCATE·1,16:PEN·10:PRINT"····by·T.Buc
     kland.":PEN·12:PRINT"··················
     ········································
     ········································
     ·····For·A.A.1993":FOR·n=1·TO·5000:NEXT·
     n
DBPA 50·MODE·0:INK·0,0:INK·1,11:INK·2,7:BORDE
     R·0:sc=0:li=20:hs=40:SYMBOL·AFTER·123
PBNN 60·SYMBOL·124,254,254,254,0,239,239,239,
     0:SYMBOL·125,192,176,76,35,35,76,176,192
     :SYMBOL·126,24,24,24,60,255,255,255,0:SY
     MBOL·127,0,24,60,126,126,60,24,0
LBMM 70·CLS:PEN·1:LOCATE·1,25:PRINT:PRINT"Sc:
     ";sc"·lives:";li:LOCATE·16,22:PEN·2:PRIN
     T·CHR$(126):IF·li=0·THEN·160
LAED 80·LOCATE·1,1:PEN·1:PRINT·STRING$(&28,CH
     R$(124))
LANG 90·LOCATE·1,23:PEN·9:PRINT·STRING$(&14,C
     HR$(143))
MAEE 100·FOR·x=1·TO·25:LOCATE·x,5:PEN·12:PRIN
     T·CHR$(125)
HAKC 110·a$=INKEY$:IF·a$="·"·THEN·130
```



Now this is more like it – if you've got any little BASIC games, send them along to us.

```
OAIM 120·SOUND·1,997,10:LOCATE·x,5:PEN·1:PRIN
     T·"·":NEXT·x:GOTO·100
CBJL 130·FOR·y=20·TO·3·STEP-1:LOCATE·16,y:PEN
     ·1:PRINT".":CALL·&BB19:SOUND·1,75,1,1,5
LCHB 140·FOR·t=1·TO·50:NEXT·t:LOCATE·16,y:PRI
     NT·"·":NEXT·y:li=li-1:IF·x=16·THEN·sc=sc
     +10:IF·sc>hs·THEN·hs=sc·ELSE·IF·sc<hs·TH
     EN·hs=hs·ELSE·IF·sc<>hs·THEN·hs=hs
CAGH 150·GOTO·70
CDGH 160·MODE·1:CLS:INK·0,0:PEN·5:LOCATE·12,5
     :PRINT"G·A·M·E···O·V·E·R":LOCATE·6,10:PE
     N·7:PRINT·"·and·You·Scored:";sc"··Points
     ":PEN·5:LOCATE·11,16:PRINT"·Hi-score·is·
     :";hs:FOR·N=1·TO·5000:NEXT·n:GOTO·30
```

Typing listings

If you've never typed in a listing from *AA* before, then reading this following blurb is a REALLY GOOD IDEA.

● Basically, all you need to do is type in exactly what we print EXCEPT the first four letters in each line.

● The first four letters are a code which work in conjunction with our unique and utterly excellent *TypeChecker* program below.

● Only press RETURN when you get to the end of a command line. If a command line goes on to two lines do not press RETURN at the break in the line. Your lines on screen should break in exactly the same place as they do in the mag.

TypeChecker

This is a program that enables you to check whether you have typed *AA* listings in correctly. Type it in, then SAVE it for future use. So, when you want to type in an *AA* listing, and you want to double check that you got it right:

● Load up *TypeChecker*.

● Type NEW.

● Type in the listing of your choice.

● When you've finished type LIST.

● At the end of every line a highlighted code will appear. It should correspond with the code printed in front of the same line in *AA*. If it doesn't you have typed in that line incorrectly.

```
PAML 10·'·TypeChecker·V1.0·-·By·Simon·Forrest
     er·-·Dec·1992
MAOJ 20·'·For·Amstrad·Action·-·Public·Domain
DANK 30·MEMORY·&9FFF
CAJK 40·csum=0
GAME 50·FOR·addr=&A000·TO·&A05B
DAKJ 60·READ·byte$
GAJB 70·byte=VAL("&"+byte$)
FACF 80·POKE·addr,byte
GAFB 90·csum=csum+byte
DALK 100·NEXT·addr
OACI 110·IF·csum<>&2ADD·THEN·PRINT·"Checksum·
     Error":END
LANE 115·POKE·&A001,PEEK·(&BB5B):POKE·&A002,P
     EEK·(&BB5C)
KAHI 120·POKE·&BB5A,&C3:POKE·&BB5B,&3:POKE·&B
     B5C,&A0
MACN 130·PRINT·"TypeChecker·V1.0·Installed":E
     ND
MABC 140·DATA·CF,FE,93,FE,0A,CA,00,A0,F5,C5,D
     5,E5,FE,0D,CA,22
LACJ 150·DATA·A0,5F,16,00,2A,5A,A0,19,22,5A,A
     0,E1,D1,C1,F1,C3
LAFJ 160·DATA·00,A0,3E,20,CD,00,A0,3E,18,CD,0
     0,A0,2A,5A,A0,7C
LADI 170·DATA·CD,45,A0,7D,CD,45,A0,3E,18,CD,0
     0,A0,21,00,00,22
LACN 180·DATA·5A,A0,C3,1B,A0,F5,E6,0F,C6,41,C
     D,00,A0,F1,E6,F0
KAJC 190·DATA·1F,1F,1F,1F,C6,41,CD,00,A0,C9,0
     0,00,END
```

Turning *TypeChecker* off (it is automatically initialised when you RUN the program above) and back on again is quite simple:

POKE &BB5B,0	To turn it off
POKE &BB5B,3	To turn it back on again

TypeChecker was an *Amstrad Action* presentation brought to you in association with Hairy Happening Productions Ltd.

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No disassemble

I was pleased to see the Assembler *Zapp* on the October covertape, and being keen to delve into Machine Code, I soon had it loaded up. I decided to disassemble from address &BD00: after a second, the code started filling the screen. Then, where the code for address &BD14 should have been, was `Bad Opcode - &BD14`. Everything else was okay. Is it a bug in the software?
K Armstrong, Morpeth

This is not so much a bug, more a case of what *Zapp* doesn't do. You see, there are a number of one-byte instructions on the Z80, called restarts (`RST`). These are just like a `CALL`, but each instruction goes to a certain address; `RST 0` is like `CALL 0`, `RST 1` is a `CALL 8`, `RST 2` is the equivalent to `CALL 16`, and so on.

The area around &BD00 (the firmware) uses lots of `RST 1`s; the CPC's system programmers cunningly arranged it so that `RST 1` was converted into a special instruction, which takes a 2-byte address parameter after it (which, if you're interested in this sort of thing, is used to jump into the lower ROM chip, which contains the operating system).

So far so good. The only problem is that *Zapp* doesn't understand this, and disassembles `RST 1` just as `RST 1` – without the two-byte parameter. Instead, it tries to disassemble the parameter into Machine Code instructions, and, unsurprisingly, they don't always make a lot of sense (imagine reading a phone book and taking someone's phone number as their house number). Hence the error message.

You don't need to disassemble the firmware anyway. It's there and it works in the way it should, so leave well alone. **Richard**

Apricot pie

I've owned an Amstrad CPC 6128 since 1989, and I now also have a nine-year-old Apricot Xi (a pre-IBM machine) in my bedroom. Since I already own the best home computer and the worst PC, I think it would be useful for me to get a new PC (*no, get yourself a Mac! – Richard*). As this would also have to be put in my room, and I still want to use my CPC for just about anything it can do, how could I go about connecting the new PC to a CPC?

Would you need just an RS232 serial interface for the CPC, a serial cable and suitable communications software for the two machines? Can the Apricot be connected to the new PC (probably a 386SX) in the same way?



Marilyn, Clur's ex-hamster, never appeared on a CPC, strangely enough.

Finally, here's a photocopy of a print-out of my hamster, made by playing a previously recorded home video in our video camera, connected via a Vidi to the CPC!
John-Alec Robertson, Shetland

Yep, you seem to have the general idea. An RS232 interface can be acquired from Siren Software, Avatar or certain other hardware people. Although they all come with suitable software, if you go for one compatible with the official Amstrad specification (ie, not the Siren/KDS model), you'll find that you can use better and faster third-party software, usually PD, which will speed things up a lot. The Siren/KDS model has a couple of design problems that prevent it working at much over 2400 baud.

You'll need a null-modem cable, which can be obtained from any half-decent computer supplies shop (even in the Shetlands), rather than a general serial cable. You can then use this to connect your two computers – including the Apricot and the PC, assuming that the Apricot has a serial connection. **Richard**

Top Tips

Top Tips

Hacked off

Please pass on this tip to all *Hackit* owners who use tapes to record their data. Before saving to tape they must execute the firmware routine at &BC6B (with a non-zero value in the accumulator) to disable cassette prompt messages. Failure to do this will result in data corruption every time!

There must be a lot of disappointed *Hackit* owners out there who don't know why their saved data won't run. Do Siren Software know about this problem? There is nothing about it in the *Hackit* instruction leaflet.
Cord Webster, Ramsgate

A bug? In *Hackit*? Perish the thought... (ahem). **Richard**

Talkin' loud

In your September issue you told Barry Hunter from Blaenau Ffestiniog that it is not possible to put a word in one MODE in the middle of a line of another MODe. It's indeed impossible to change the MODE, but one can overcome this problem and write a word in MODE 1 characters in the middle of a line of MODE 2, in MODE 0 into a line of MODE 1, and even in superlarge characters if the current MODE is 0. Just type in this listing, save and run it:

```
100 SYMBOL AFTER 254:MEMORY &4FFF:RESTORE 200
110 FOR i=&A500 TO &A593:READ a$:POKE i,
VAL("&"+a$):NEXT
120 c$="FANTASTIC"
130 MODE 2:PRINT"AMSTRAD ACTION is a ";
140 CALL &A500,@c$,0,254
150 PRINT" magazine!":PRINT
160 END
200 DATA FE,03,C0,DD,7E,02,CD,B4,BB,DD,7
E,00,CD,A5,BB,D0
210 DATA EB,DD,6E,04,DD,66,05,7E,B7,C8,4
7,23,7E,23,66,6F
220 DATA C5,7E,23,E5,CD,A5,BB,D5,11,A4,A
C,01,08,00,CD,06
230 DATA B9,ED,B0,CD,0C,B9,D1,D5,21,A4,A
C,06,08,AF,CB,66
240 DATA 28,02,CB,C7,CB,6E,28,02,CB,D7,C
B,76,28,02,CB,E7
250 DATA CB,7E,28,02,CB,F7,4F,17,81,12,2
3,13,10,DF,21,A4
260 DATA AC,06,08,AF,CB,46,28,02,CB,C7,C
B,4E,28,02,CB,D7
270 DATA CB,56,28,02,CB,E7,CB,5E,28,02,C
B,F7,4F,17,81,12
280 DATA 23,13,10,DF,DD,7E,00,CD,5A,BB,3
C,CD,5A,BB,D1,E1
290 DATA C1,10,ED,C9
```

The routine at &A500 is to be used as follows:

```
CALL &A500,@c$,stream,udc
```

...where `c$` is a variable containing the string to print, `stream` the window to print it in and `udc` the first of two consecutive user-defined characters for the routine to work with (254 in the above example). The code is 148 bytes long and can be loaded anywhere above &4000.
Philippe Rousselle, Paris

Thanks very much – a rather nifty little routine. **Richard**

PC Plod

Unfortunately, the IBM PC and its compatible chums are pretty much the standard these days in computing, and that means that our computers have to talk to them. There are a number of programs around to let the machines interchange disks, and one of the best is Andreas Stroiczek's excellent shareware *DOS-Copy* utility.

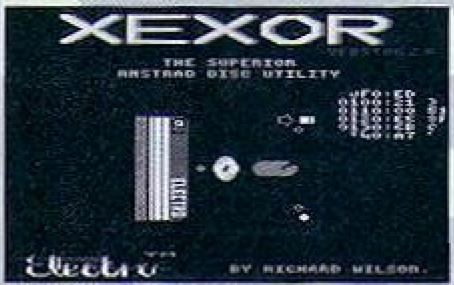
Power, corruption and lies

Recently one of my disks has become corrupt. When I tried to verify it using Disckit 3, I found that there is a data error on track 2, sector &01 within the directory. Would I be able to use a disk editor such as *Xexor*, which you reviewed in *AA96*, to recover the material on this disk?
Richard Mackey

Having a messed-up directory is one of the worst things that can happen to a disk. Even if you do manage to recover it, there'll still almost certainly be something missing. However, you might find a disk editor useful in two respects.

The first is that a decent disk editor won't throw a complete fit at a corrupted sector such as this one, but instead try to read as much of it as it can. You can then write that back on to the disk, and at least have an only partially-wrecked disk (which you should back up as soon as possible).

However, you might find one other method more useful. *Xexor* (alone amongst disk editors, I think), has a rather neat facility to write the contents of certain tracks on a disk directly to a file. This means that, if you can find whereabouts on the disk your data is stored (which shouldn't be too tricky), you can just take it straight from there – which, presumably, isn't corrupted – on to another disk. So yes, a disk editor would be useful. **Richard**



Not to be confused with Xor the game or XOR the command (see Assembly Line).

However, a note of caution. If you run the program from drive B – quite likely, after all, since anyone wanting to swap data with a PC (or Mac, Amiga, ST or Archie) needs a 3.5-inch drive anyway – it throws a wobbly and doesn't write the data properly. If you're going to keep it on 3.5-inch disk, put it on a standard format disk and use an ABBA switch.

And finally...

...to the person who wrote in wondering how to get 'a squiggle' from their CPC, try CTRL-2. It's the Spanish 'tilde' character.



TIP OF THE MONTH: The felt tip that our very own Andy O uses in the line of duty. We couldn't produce the mag without it.

Through the square window

1 How do I get a background colour for a specified stream, ie, `WINDOW #1,1,80,1,1`? I want the screen and border black, but window #1 white with black text, in MODE 2 – like in the database you gave away on one of your covertapes.
2 On disk I have created files called `0001` to `0100`. How do I get the computer to load the files in order as specified? I have tried to do it using a loop with the variable x and the line `OPENIN X`, but alas it's a lemon.
3 How can I get the computer to give a warning if I try to `OPENOUT` a file called `"TEST"` and it already exists? I want it to come back to me saying so as opposed to it just overwriting and creating a `TEST.BAK`.
Jim Furie, Glasgow

1 First of all, to set up the colours to your black-and-white combination, use `INK 0,0: BORDER 0: INK 1,26`. Now all you need to do to set the window #1 up correctly is `PAPER #1,1: PEN #1,0: CLS #1`.
2 The computer won't accept the command `OPENIN x` – x is a number, you see, and the `OPENIN` command requires a string (the filename). So, to be able to open a numbered file, you need to convert the number to a string. This is done, usually, with the `STR$` function. However, this won't give you the zeros at the start of the number which your filenames utilise. Here's how you could do it:

```
150 f$=MID$(STR$(x),2)
151 WHILE LEN(f$)<4: f$="0"+f$: WEND
152 OPENIN f$
```

3 There are two ways. One is to attempt to `OPENIN` the file first; if it doesn't exist, the computer will throw up an error. 664, 6128 and Plus owners can check disk errors by using the `ON ERROR GOTO` command; so, if the error routine finds an error when trying to open a file in line 300 (say), then `ERL` (ERror Line) will contain 300, and you can go to the line that handles a case of the file not already existing. If this was line 400, you'd use `RESUME 400`.

If you want your program to retain 464 compatibility, there is another way to do it. Let's say you want to check if file 0035 exists. Use the following lines:

```
500 CLS
510 f$="0035"
520 |DIR,@f$
530 v=VPOS(#0)
```

If the file exists, then `v` will hold 8. If it doesn't, it will hold 7. This works by trying to produce a directory of any file with that name; if one exists, then 8 lines will be printed on the screen, otherwise only 7 will. **Richard**

Ghost in the machine

I am fairly new to Machine Code, and can write small routines to speed up my games, but a few commands confuse me.
1 What are the following used for – `DAA` (&27), `CPL` (&2F), `SCF` (&37), `CCF` (&3F), `RST n`, `EXX` (&D9), `NEG` (&ED &44), `RETN` (&ED &45), `IM 0-2`, `RETI` (&ED &4D)?
2 Why, after I write out all the opcodes, have I got a massive space between &ED &80 and &ED &FF (not including `LDI`, `CPI`, `INI`, `OUTI` and so on).
3 When a `CALL` has parameters after it, eg, `CALL &BC07,&C0`, where do the parameters go? I want to make my own routines that use them.
4 Does the program *Maxam* recognise the hidden opcodes, the high and low bytes of the index registers?
5 What's the difference between *Maxam* and *Maxam 1.5*, and what do I need to buy the ROM version? (*Money, perhaps? – Dave.*)
6 Can you think of any more questions? I've run out completely.
Simon Crabtree, Northallerton

1 For `DAA`, see Ted Hull's letter last month (I'm not going all through that again). `CPL` complements all the bits in the accumulator – ie, changes the 1s into 0s, and vice versa. So, if A contained binary `11000100` (196), then a `CPL` would turn it to `00111011` (59).

`SFC` sets the carry flag, and `CCF` complements it (as above). By the way, if you want to reset the carry flag, don't do `SCF: CCF`. Just do `OR A` instead.

The `RST` instructions are short one-byte `CALL`s to certain places in memory; `RST 0` goes to address 0, `RST 1` to 8, `RST 2` to 16, and so on. They're used by the Amstrad's firmware to do important things, so don't go putting your own code here (you can put 8 bytes at &30, though, accessed by `RST 6`).

`EXX` exchanges registers `BC`, `DE` and `HL` with registers `BC'`, `DE'` and `HL'` – aka the alternate registers. Again, these are used heavily by the Amstrad's firmware, so it's best to avoid them if possible (if you do use the instruction, remember that it doesn't exchange `AF` with `AF'` – you use the instruction `EX AF,AF'` for that).

`NEG` subtracts the number in `A` from 255 – or, in two's complement arithmetic, turns a positive number into a negative one, and vice versa. To negate a 16-bit number, `NEG` the low byte, and `CPL` the high byte. For example, to make `HL` become the negative of what it was previously:

```
LD A,H: CPL: LD H,A
LD A,L: NEG: LD L,A
```

`RETN` returns from a non-maskable interrupt routine. It's not something that's used on the Amstrad. `IM 0`, `IM 1` and `IM 2` are all to do with setting up how the interrupts work, and again, it's best not to alter the CPC's default setting. Finally, `RETI` returns from an interrupt routine. It does the same as `EI: RET` would.

2 There just aren't any opcodes there, it's as simple as that. If you want to discover some →

really weird undocumented instructions, try combining &ED with &DD or &FD.

3 The number of parameters is passed to the routine in A. The parameters themselves are contained in a block starting at address IX; (IX) and (IX+1) contain the last parameter (low byte first), (IX+2) and (IX+3) contain the penultimate one, and so on.

In the case of standard integer numbers, the numbers themselves are passed in the block. Strings work slightly differently; the address of their descriptor block is passed. This block is three bytes long, the first byte of which contains the length of the string, and the next two its address in memory.

4 Nope. However, if you want to assemble "LD A,XH", for example, all you need to do is enter defb &DD: ld a,h.

5 Plain, vanilla *Maxam* comes with a text editor built in. *Maxam 1.5* doesn't – it assumes that you are using *Protext* (a far superior text editor, of course) to prepare your source code, and so has room for a lot of extra features. *Maxam* itself is excellent, but *Maxam 1.5* and *Protext* are the ultimate coding combination. For the ROM version, you just need the appropriate ROMs (fairly obviously) and a ROM-board to put them on.

6 Okay, then. Which of this month's Techy Forum question titles are album/song names, and from which groups? **Richard**

Confusion

I am writing to you in the hope that you may be able to assist me since everywhere I try I seem to come up against a wall of confusion. I have recently purchased a second-hand CPC 6128 computer, and though it accepts some games on tape, it will not accept some of the more detailed ones. I can get the games to run, but inevitably I come up against the command Memory full owing to the fact that I cannot access the second 64K of memory available on the 6128.

Apparently what I need is the system disk, which was missing on purchase, and which contains a *Bank Manager* program which allows you to open the closed section of the memory. I have tried everything to obtain the *Bank Manager* program locally but have had no success. Please help!

Richard Stevenage-Jones, Northampton

Confusion is about right, really. The second 64K of your 6128 is a bit of a red herring; it can only be used by a bit of clever programming, and any game worth its salt is going to use its own routines to access it rather than the pathetic *Bank Manager* program supplied by Amstrad. If you're trying to load a game on a 6128 and you receive a Memory full error, it's not because it can't access the extra memory, but rather that it is trying to use a bit of the main memory which the 6128's disk system has swallowed for itself – before CPC disk systems came along, a few programmers wrote games that used this area of memory.

The solution is to run a small program to tell the computer not to use this memory. And here's a small listing to do it...

```
10 MEMORY &7FFF: FOR n=&8000 TO &800F
20 READ a$: POKE n,VAL("&"+a$)
30 NEXT: CALL &8000
40 DATA 21,08,80,3E,00,C3,16,BD
50 DATA 3E,C9,32,CB,BC,C3,06,C0
```

Richard

Room for expansion

1 I got an RS232 serial interface for my 464 Plus, but for some reason the expansion port on my computer is smaller and the interface does not fit. Why?
2 On *Mastercalc*, when I try to total up, all I get is 0 in the chosen cell. Why?
3 Can *Screen Designer* be printed on a printer? How?
Pat no-surname, Dublin

1 As you might know, Amstrad fiddled with the expansion port on the Plus machines (to conform to EC regulations), so that no existing peripherals will work without a small adaptor. You can buy one of these from WAVE, Dartsma or such like, or alternatively, we've printed the details in Techy Forum in the past. You say that the interface doesn't fit – this sounds like you're trying to plug the 464 Plus into the actual serial connector on the interface, which is meant to be plugged into your modem or serial printer.

2 As for your *Mastercalc* problem, I'm afraid I've got no idea. Check that you're following the instructions in Simon's tutorial.

3 Finally, it's very easy to print out *Screen Designer* on a printer. Just try PRINT #8,"Screen Designer". Alternatively, if what you want to do is print pictures from *Screen Designer*, try loading the pictures into GPaint (which was on the covertape a while back) – or any other screen-dump utility or art package with such a capability – and printing them from there. **Richard**



"Excuse me, young fellow. I hope you're not using me to illustrate that bit about useless bank managers. The cheek of these young people today. Stupid boy."



We're here to serve

We are your humble servants and it is our purpose in life to see to your every needs. Well, perhaps not every need. Make that just the ones which involve technical queries about the CPC. But hey, it better than being hit in the teeth with a calcified aardvark. Anyway, if you've got a techy query, write to Richard here at: Technical Forum, *Amstrad Action*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

Side by side

I recently bought a second-hand 6128 with 3.5-inch disk drive through your Small Ads. However, there is a switch on the disk drive which is puzzling me, as it is not labelled and I know it isn't a power switch. With some disks, I can flick the switch and I get a new load of games. With others, it just says Drive B: read fail. Do you have any idea what this switch does or have I got a weirdo disk drive?
Tony Deacon, Scunthorpe

It's a side switch – one of the most useful gadgets known to man (*along with the Remmington Fuzzaway – Dave*). Every 3.5-inch disk drive should have one.

Of course, when you turn a 3-inch disk over, you can use the other side; it's the same with a 3.5-inch disk. However, as you can tell if you look at a 3.5-inch disk, the top is quite a bit different to the bottom. There's no way that you could actually insert it upside down and expect the disk drive to read the disk.

Luckily, (almost all) 3.5-inch disk drives are capable of reading both sides of the disk themselves; imagine a record player with a stylus above and below the record, and you're about there. Some programs, like *ROMDOS* or *ParaDOS*, will work out which side to read automatically and treat the disk as one huge great massive side. However, if you have a side switch – as you do – you can use the disk as two separate sides. You choose which one to access by flicking the switch. I hope you appreciate how lucky you are. **Richard**

READER ADS

SERVICES

New tape based PD library. For more information send stamped addressed envelope to C-PD library, 4 Bridge Close, Whitwell, Worksop, Nr. Notts.
Amstrad home-programmed software for sale (27 titles), for printed catalogue send 20p and SAE to: Derek Payne, DMP Amstrad, 89 Wolverhampton Road, Codsall, Wolverhampton, WV8 1PL.
Disk hospital, home-programmed, not PD. Erase un-erase, rename, format ect. Send disk and £1.50 to Derek, 89 Wolverhampton Road, Codsall, Wolverhampton. Make cheques payable to Alan Payne.

USER GROUPS

Australian CPC users, contributors needed for a PD library and fanzine. Any enquiries welcome, all letters answered. Write to: Brett Tippet, 69-71 Racecourse Road, Heyfield, Victoria, 3858, Australia.
Amstrad User, the ultimate disk-zine has now improved. With graphics, sonics and a whole disk full of PD send disk and cheque/PO for £1.15 to: Brian Leahy, St. Mary's Road, Kingscourt, Co. Cavan, Ireland.

MISCELLANEOUS

Attention: Tuck PD has changed address to: 7 Carr Field, Eland, Haugh, Ponteland, Northumberland. NE20 9XR. We have over 60 disks full of PD software, send an SAE for a stocklist.
New PD library - TAD PD tape and 3-inch disk - wanted - your software, basic or machine code. Send tape or disk to Michael Craig, 28 Golfhill Drive, Alexandria, Scotland. G83 9ER.
Home grown machine code games from strategy to shoot-'em-ups. Good graphics and playability, menu driven. £2.99 plus disk or £4.99. Kevin Heywood, 18 Sinclair Avenue, Banbury, Oxon. OX16 7DW.
The December/January edition of Ultra-Games fanzine is now available. Includes CPC, Amiga and Sega coverage and competitions. Please send £1, an SAE and a blank tape to Ultra-Games, 20 Lancaster Terrace, Chester-Le-Street, County Durham. DH3 3NW.
Action Pro - excellent project/schedule manager, yours free. Send a blank, formatted, 3.5" disk and two large SAE's. IBM PC's compatible. FWS, 25 Heol-Y-Plwyf, Ynysybwl, Pontypridd, Mid Glamorgan, South Wales. CF37 3HU.
Dennis PD, the one and only Greek PD library. Also hardware for selling. I'm also looking for more contacts. Write to Dennis Kondopoulos, Chora Naxos, 84300 Naxos, Greece. Tel: 0285 25857, fax: 0285 23157.
Educational software, Home Teacher covers numbers, colours, addition, shares, time and subtraction (4-6 year olds). Only £5.99 direct tape or disk, postage free. Pathway Software, 9 Meeting House Lane, Balsall Common, West Midlands. CV7 7FX.

PD LIBRARIES

Hex Heroes PD library, over 100 selections at 25p each. Send an SAE to 24 Woodend Lane, Stalybridge, Cheshire, SK15 2SR for a free catalogue.
Trek PD: brand new PD library, lots of selections, including Star Trek database at only 30p a side. Send 50p for printed catalogue to Trek PD, 17 Cromer Road, London. SW17 9JN. Simply the best.
Image PD, 100 selections of PD at 50p per side. For more info send SSAE to: Darren Dodds, 15 Elmwood Drive, Ponteland, Newcastle-upon-Tyne. NE20 9QQ.
Demon PD library has been completely re-structured and now contains 180 selections of quality software. For a catalogue send an SSAE to 47 Hilton Avenue, Hall Green, Birmingham, West Midlands B28 0PE.

PEN-PALS

Male and female pen-pals aged 12 to 25. State your requirements and interests and write to J. Harrop, Suite 1, 281 City Road, London. EC1U 1LA. SAE please.
Pen-pal wanted, age 17 or over, male or female, to swap games and to play postal chess. Write to Iain Chanter, 1 Sanctuary Court, 65 Croydon Road, Penge, London. SE20 7TE.

FOR SALE

Amstrad CPC464 computer in original box plus two disk drive, extra memory, and tons of original software and more. Please phone 081 947 0621 after 6pm. Quick sale wanted.
Disk Sale!!! The cheapest disk-based games around. All originals. Phone James on 0533 836453 for a complete list of what's available.
Amstrad CPC6128, colour monitor and computer, original boxes, manuals and disks. Over 50 disks including Brunword, Advanced Art Studio, Mouse, Hackpack, external tape plus loads of tapes. All for £180 0703 437296.
CPC games and utilities on tape and disk. For a list send an SAE to Richard Marra, 24 Woodend Lane, Stalybridge, Cheshire. SK15 2SR.
Colour monitor, Multiface 2, Voyager 7 modem, MP2 power supply, two keyboards CPC6128, CPC664 (some keys not working), 100 various magazines (CWA, AA, ALU), lots of disks. 0784 436168 (offers), will not split.
Amstrad 464 Plus with colour monitor under two years old, Burning Rubber version, over 70 games, joystick paddle. Manual. Telephone 0302 738635. £150.
Amstrad CPC464, colour monitor, complete with manuals, system disks, built-in disk drive, lots of disks, tapes, datacorder, word processor, Fun School, joysticks, games. Excellent condition, £130 OVNO. Telephone 0502 715823 (Suffolk area).
CPC second-hand tapes. Machine Code tutor, ADAM and a compilation, £3 each. Compilation includes Green Beret, and Kung-Fu games. SAE for list. Angela Allum, 22 Point Royal, Bracknell. RG12 7HH.
Amstrad 6128 colour monitor, printer, cable and disks. Buyer collects (Devon). Tel: 0297 553451.
Amstrad CPC464, colour monitor, two disk drives, printer, £800 worth of software, many extras. £350 ONO. For more details call Gordon on 0655 82639. Would make an excellent Christmas present.
Amstrad CPC464, green monitor, keyboard in perfect working order with some games, sell for only £45. Ring 0883 715193
Amstrad CPC464 computer, colour monitor, manuals, many games, excellent condition, ideal Christmas gift. Bargain, worth £450+, will sell for £100. Tel Brian on 0440 62492 or write to 21A Ashgrove, Haverhill, Suffolk. CB9 9HT.
Amstrad 464 CPC, cassette games for sale, includes Kick Off 2, Lemmings, many more from £1 - £3.50. SAE for list. Tony Palmer, 15 Barnsley Road, Wath Upon Dearne, Rotherham, South Yorkshire S63 6PZ.
CPC6128, mono monitor, modem, joystick, 60 games, Tasword, MiniOffice and 80 Amstrad Actions. Ideal games/small business machine. Good condition £125. With printer £200. Tel: 081 946 3480.
For sale, Soft 158 and 158A, FDI and cable, used 3-inch disks, full set Bonzo disks, text books, 464 speech synthesizer. For further details ring John on 0733 203666, Peterborough area.
Amstrad CPC464, colour monitor, DDI disk drive (will not load CPM, but does load games) and DCT logo, plus manuals. £100 ONO. 081 672 7557, buyer collects.
Amstrad CPC464 cassette games from £2, large selection, reduced price, list available. Tel 0582 581259.
Amstrad CPC464, colour monitor, almost 120 games, Multiface II, SSA-1, amplifier, joystick, lots of AA's. £200 ONO, buyer collects. Phone 031 661 4212 after 5pm on Mon. or Tues. and ask for Scott.
Amstrad CPC464 with G31 mono monitor, two joysticks and over 90 games ect. £100. Mrs. CE Wood, 4 Bryn-Garth, Denbigh, Clwyd. LL16 3RP. Or Telephone 0745 816757.
Galactic Warfare version 4.4, strategic war game, 2 players, 2 scenarios, various spaceships, Missiles, ground units, hidden movement, m/code, graphics, sound effects, keyboard/joystick, save game. Version 4.2 reviewed in AA97. P Gardener, 2 Crofton Road, Northend, Portsmouth. PO2 0NT. Also Laser Squad Scenario 2 "Moonbase Assault" sprite fix to prevent firing through closed doors. Send game disk, 50p and SAE to above address.
464 keyboard, working except counter, joystick, manual, four serious classic collection covertapes, snooker, two Amstrad books. Postage included £50. Also CPM plus disks and manual £25. Jack 081 518 3335.
6128 keyboard, GT65 green screen MP2, TV modulator, manual, joystick, Tasword, Recall, MCalk, CPM combination. Kickoff 2, Golf, Snooker, blanks £145. Might split CPM disks, manual £25. 081 518 3335.
Gift idea for inexperienced computer user. Amstrad CPC464, colour monitor, TV modulator, mouse, interface, clock/alarm/radio. Software includes art package, North and South, French, Maths, Scapeghost, plus more. £250 ONO. Tel: Joanne on 0203 611511.
CPC464, DDI disk drive, ROM box, Protext, Prospell, Promerge+ and Utopia on ROM. Eight bit printer port, printer lead, 58 tape and 18 disk games. £350 tel: Tony on 0943 864846.
Rodland for sale on cassette, new, hardly used. Phone 0300 341570 (Dorset), ask for Robert. £2.
64K memory expansion for CPC464 inc. bank switch S/W and manual £20. Ring Ken 0773 852919.
Amstrad 464 colour monitor 6128 ROM fitted DDI manuals £190 ONO. Telephone 0986 85273.
Games for sale, over 250 of them, tape games £1-4, disk games £5-6. Send an SAE for list or requests to Lee Simpson, 2 Lordship Road, Northolt, Middlesex. UB5 5TF.
Games from 20p (tapes), disks from 80p, serious things from £2. Also Hardware, books, magazines, everything going cheap. For full list send SAE to Alex Prentice, 57 Dobbies Road, Bonnyrigg, Midlothian. EH19 2AY.
Amstrad 6128 computer, green screen monitor, disk and tape games, plus tape machine. All very good condition, £130 ONO. Call Steve on 0538 266796.
100 Amstrad games for sale, mostly on tape, all cheap, 50p-£2. SAE for list to Paul Suttle, 11 Bath Place, Margate, Kent. CT9 2BN.
Amstrad 464, Basic 1.1 chip, drive + disk, 64k mem, Multiface2 + Insider. Joystick, books, magazines, printer lead, light pen, OCP + mouse, 170 games. For £370, call Chris, answerphone or after 4pm, on 0789 470686
Prof 9000 deluxe joystick, as new, bought at £30, for sale only £13 with adjustable rapid fire compatible with Atari 400-800 and 600xl, Commodore 64 and Vic 20, Spectrum and all MSX sys with adaptor. Write to Martin, Clondallon, Rathmullom, Co. Donegal, Ireland.
Amstrad 464 plus with colour monitor, control pad, few games, a cartridge game. Sell for 210 ONO. Contact Dhiresh on 081 4508674.
Games on tape for sale or swap: F-16, Gunship, Silent Service to name but a few. Send SAE to Scott Frewer, Sealeaves, Carlidnack Road, Mannan Smith, Falmouth, Cornwall, TR11 5HA.
Amstrad CPC464 software, all original titles, many games less than half price. For list send SAE to Rubina, 183 Milton Avenue, Eastham, London. E6 1BN.
Amstrad 6124 green monitor with keyboard, 50 games and manual. £60. Tel: 0733 370386.
Casio tonebank keyboard CT420 stereo sound 210 sound tone bank, pulse code modulation and free powerpack. Cost £250 new, bargain at £130 ONO. Call 0642 597695, ask for Peter.
Amstrad 6128, colour monitor, with lots of games on disk and tape and a cruiser joystick, also a word processor pack at a bargain £150. Phone Chris on 0726 63735.
CPC6128 and 464 Plus, both colour manuals, MP3 tuner, approx. 18 disks, 80 tapes, also AA magazines from 10 onwards, complete with tapes. £425 ONO the lot, might split. Call 0634 377955 (Kent) might deliver.
Shadow of the Beast and Titus the Fox, £5 each (disk). PAW disk as new £15. Tapes £1 each: Emlyn H, Lotus, Rainbow Islands, Powerdrift, Midnight Resistance, Shadow Dancer, Rugby, Supercars, Magic Dizzy.. Patrick 0661 853848.
Soft 968 for £30 including postage. Elite on disk plus Amor C . S&S disk drive, lots of CPC manuals, tape, disk games 64k, ram expansion ect. Phone 0446 736529 Saturdays.
Tasword 6128, Tascopy (D), Tasspell (D), Tasdiary (D), £12 each or swap all disks for mouse interface and AAS disk. Phone Mark on 0705 451930.
CPC 6128 with colour monitor, television tuner and aerial, cassette recorder, joystick, mouse, manual, over £200 of software, disks and tapes AA's with covertapes from 1989. £250 ONO, call 0329 663830.
DDI and interface £65, DI £35, Amstrad soft 157. Other books i.e.. Filing Systems by Stephensons, 464 Disk System by Sinclair and others. Phone John Williams on 0633 857376 (S. Wales).
Educational software on disk, Maths, Biology, Physics, Chemistry revision. Ideal for standard grade or GCSE revision. £7 each or £25 the lot. Contact Matthew Wilson, Balhelvie, Newburgh, Fife. KY14 6HN.
Amstrad CPC464 Plus, colour monitor, more than 150 games including Golden Axe, Turrican 1 & 2. Plus Pang on cartridge, joypad and joystick. Worth over £350, sell for £320 ONO. Contact 0246 435914 after 5pm.
6128 silicon disk and operating system gives extra 256k £45. Barrie Davey IOW 0983 567792.
Amstrad CPC6128, colour monitor and TV modulator, 23 disks and 15 cassettes with 78 games, joystick, CP/M disks, disk box, manual and book, AA magazines, £195 ONO. Tel 0235 526106.

Continued on page 41 →

Power Up

Here we go with the first AA leisure zone of 1994 – and first off, meet your (wrinkly) hosts

100 issues old and AA has never looked better. But will the crew look as good when they make it to the big one-oh-oh?



DAVE GOLDER
Head honcho

One thing I have to do before I reach 100: Direct a movie version of *Doctor Who (with Wynona Ryder as the starring as the Doc's companion).*
Ultimate Christmas pressie: *Street Fighter 2* on the CPC – hah! But since that'll never happen, a real pinball table.
New year resolution: To get more work out of Andy, Clur and Simon for less money. (*Oh yeah? Not if we see you first - everyone else on the Crew.*)
Can you see those stereo 3D pictures things? Not a sausage. I reckon it's all a case of the King's New Clothes.

ANDY OUNSTED
Crayon wielder



One thing I have to do before I reach 100: Learn how to play the guitar properly and make a record (it doesn't have to be any good).
Ultimate Christmas pressie: A year's supply of *Avengers* videos (bound in leather, of course).
New year resolution: To drink considerably more Baileys than I did last year (is that possible? – Dave).
Can you see those stereo 3D pictures? Dunno, they weren't around in the 70's, were they? We had to make do with kaleidoscopes in my day.



SIMON FORRESTER
Technical bod

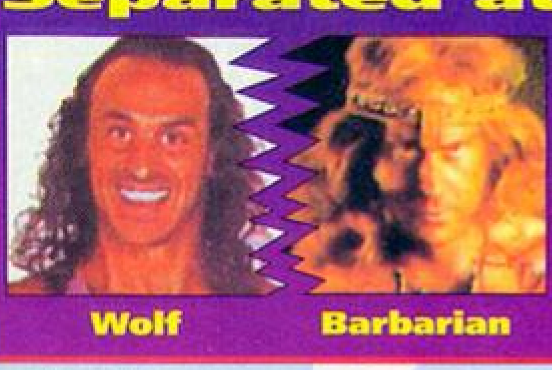
One thing I have to do before I reach 100: Reach 21.
Ultimate Christmas pressie: Five minutes 'round HMV with a shopping trolley. A large shopping trolley.
New year resolution: To accumulate more groupies.
Can you see those stereo 3D pictures things? It depends entirely on what mood I'm in at the time.



CLUR HODGSON
Token girlie

One thing I have to do before I reach 100: Lern to spell proply.
Ultimate Christmas pressie: Tickets for every single superbowl until the day I die.
New year resolution: To be kinder to Dave (*I like this girl, she'll go far – Dave*) and clean my car more than once a year.
Can you see those stereo 3D pictures things? I stood for half an hour desperately trying to see the dragons in one of them, but to no avail.

Separated at birth



Wolf   Barbarian

There's a good reason for the similarity this month. Yep, in his dodgy days before he swept to fame as a Gladiator, Wolf eked out a living as a male model. If you reckon someone famous looks like a game character send your suggestion to Separated at Birth, *Amstrad Action*, 30 Monmouth Street, Bath BA1 2BW.

AA Trump Cards # 3

The second in our series of cut out and keep cards. Put it together with the last two, shuffle them, hand one to a passer by and have a fab game of Trumps.

Bub & Bob
Ocean



Cloying cuteness factor..........9*
Appearances..........2
(Bubble Bobble, Rainbow Islands)
Hardness..........3
Street Cred..........7
Quality of games..........9
Resemblance to a deckchair..........2*
Overall AA totally biased rating..........8

(*Bub and Bob actually appeared as dragons in Bubble Bobble as opposed to their usual 'cute kiddie' mode – as such some of the scores above – such as Cloying cuteness – are aggregate scores.)

Reaction

Send your letters to: Reaction, Amstrad Action, 30 Monmouth Street, Bath BA1 2BW

Defector?

1 By using *PC Trans* (which is available from Silica Systems) is there any way of transferring CPC 464 games on to a PC?
2 If not, is there another way of achieving this? Not that I would, however, as it is probably against the law. I was just wondering. Hypothetically.
3 Could you recommend a PC magazine that is as totally brilliant and zany as *Amstrad Action* (and has a cover disk)?
4 Could you tell me whether the DDI-1 drive a 3-inch or a 3.5-inch disk drive?
Martin Davis, South Wales

1 I'm afraid it can't. *PC Trans* can only transfer text files.
2 A friend of of a friend – ahem – reckons that the only way you could run 464 games on a PC would be if the PC were running a CPC emulator, and no-one around here seems entirely sure if such a program exists. Would anybody out there like to enlighten us?
3 To be frank, no PC mag could ever be as brilliant or zany as *Amstrad Action*, but the closest you'll get is the brand spanking new *PC Gamer*, which is a rather jolly little read. Hang on, are you buying a PC or something?
4 3-inch. **Dave**

Strewth



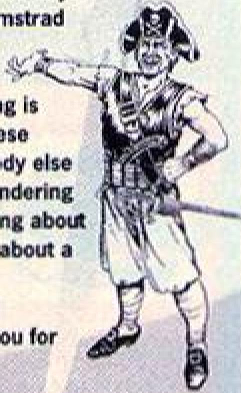
Thank you for the brief mention about the Sydney Amstrad Computer Club in your July issue. We have had a few telephone enquiries since, and we hope that your readers in Australia will get in touch with us for any help they may require.

However, are members are somewhat disappointed that the whole letter was not published. I would like to stress once again that our Club has been running ever since the first Amstrad came on to the market. We have followed the growth and, sad to say, the wane of the CPC in recent years. However, as I mentioned in my last letter, we are dedicated to the CPC, and although some members have gone on to buying PCs, the CPC remains their first love. Although the CPC is slow compared to modern technology which other computer can achieve so much and so cheaply?

Owing to some brilliant work from members, most of us have been running three drives, with full use of the large drives. We have EPROM programmers and one very gifted member has converted most popular programs to ROMS. We even have our technical expert working on some kind of hard disk. So you see, we are far advanced as far as the CPC is concerned. Hence I think that we do deserve a proper mention in your magazine because owners of CPCs both in Australia, New Zealand and other Pacific countries can benefit from correspondence with our Club. We do have a quarterly newsletter that is given out to members and enquiries can be addressed to Post Office Box 423, Matraville, New South Wales-2036. Our telephone numbers were published in your July issue.
Sydney Amstrad Computer Club

Sounds like you're up to some interesting stuff down under. If you're producing new software and hardware that you reckon us 'pommies' really ought to know about, why not send it along to *AA* for a review? You never know, this could be the start of intercontinental CPC trading. **Dave**

Pirates ahoy!



I am concerned about software piracy. A shop near me which mainly deals in selling second-hand software and also buys software is selling Amstrad games which have been copied on to BASF tapes. The thing is they have bought these games from somebody else for a price. I was wondering if I could do something about this as I have heard about a group called FAST?
Matt Gleaves, Essex
PS Oh yeah, thank you for being the best.

FAST stands for the Federation Against Software Theft, and, indeed, they will be interested to hear about cases like the one you have mentioned, Matt. Software piracy must be stamped out because it could kill off the CPC completely – if the companies producing software don't make money because scummy pirates are copying their work, then they won't bother producing any more. So don't be scared to grass on these people; they deserve it. FAST can be contacted at 2 Lake End Court, Tuplow, Maidenhead, Berks SL6 0JQ. **Dave**

Distressed

I am a beginner and very distressed. Could you answer my following questions?
1 Can you plug a tape recorder into your 6128 and load up Amstrad cassette games?
2 Can you plug a 3.5-inch drive to your Mega Drive and play disk games on it?
3 How many chess games are there for the CPC and which is the best?
Stephen Kenny, Co Cork, Ireland

1 Yes, but you need a lead that has a 5-pin DIN plug at one end and two small mono jack plugs and a smaller remote jack plug; a standard tape control lead. Try Tandy.
2 Er, no. Why would you want to?
3 Not sure about how many there are, but the best is *Colossus Chess*. Well, we would say that – we gave it away on the covertape that went with issue 91 (which, incidentally, is still available from our Back Issues service on page 24). Well, did you seriously expect us to recommend anything else? **Dave**

Slipped disks

As a relative newcomer to computers and a regular reader of your excellent magazine I would be grateful if you could help me with the following questions.
1 I own a 464 Plus and would like to purchase a disk drive.
a) What is the difference between a 3-inch disk and 3.5-inch disk?
b) Which is more commonly available?
c) On which format are most disk games available?
d) What else do I require to put tapes on to disk?
e) If you were starting from new like me, what would you purchase and why?
2 I would also like to purchase a printer. In earlier issues you recommended the Star LC20 printer. Is this still the case? Do I need any additional software to use the printer?
Stephen , Worcestershire





1 a) Right, hands up all those of you who thought I was going to

say about half an inch. You were right. The only physical difference is the size.
b) Across all computer formats, 3.5-inch.
c) On the CPC most games are available on less readily-available 3-inch disks.
d) A Multiface 2, available from Romantic Robot ☎ 081 200 8870.
e) *AA* every month, because it'll tell you everything you need to know. A Multiface is pretty much essential as well. From there on it pretty much depends on what you want to use your CPC for. Write in to Techy Forum with a few more details.
2 Yep, we still reckon the Star LC20 printer is a right rollicking piece of hardware, and no, you don't need any other software. **Dave**

Dear AA: Normal service will not be resumed...

1 Not so long ago I bought *Smash TV* on CPC cassette at full price and to my disappointment it had a fault. As soon as you exit the first part the screen moves on then starts to flicker and nothing can stop it. I took it back and swapped the game for a different one as they didn't have another copy. Recently I bought it again on budget and the same thing happened. This time I didn't take it back to the shop where I bought it: instead I sent it back to Ocean and they sent me another copy. Guess what? It didn't work. Again I sent it back, they sent me another copy and again it didn't work. This time I was really cross and instead of sending me another copy I asked them to send me three complementary games which they agreed to. They sent two games and yet another copy of *Smash TV* which again didn't work. At this moment I'm sending it back for the third complementary game. I'm just wondering if anybody else out there has come across this problem?



2 Dave, did you work for a magazine called *GB Action*?
3 *AA*, you're doing great work and I'm really pleased that there's a new team that's going to make *AA* great. But where's Adam Peter's gone?
4 Where are the reviews of *Final Fight*, *Street Fighter 2* and *Strider 2*? There are dozens of games out there being released that you haven't reviewed yet. Come on *AA*.
5 Review more games. Review older games if necessary. Also you could start a step-by-step guide to BASIC.
Alistair White, Melton Mowbray

1 It's not a problem that we've heard about before, to be honest, but if anybody else has, let us know and we'll try to get to the bottom of this.
2 Certainly not. Perhaps you're getting it mixed up with *The Whitstable Times*?
3 Brighton. We're not sure why.
4 Not guilty on *Street Fighter 2*. It hasn't come out yet. We thought *Final Fight* was so bad we really didn't want to mention it. As for 'dozens' more, I think that's an exaggeration.
5 How does everybody else feel about us reviewing old games? Write in and let us know what you'd like to see re-reviewed. **Dave**

Dear AA: Public inquiry

Thanks for the excellent magazine, blah, blah, and I loved the *Blues Brothers* which came with *AA98*, but I have a few questions:
1 Do you think Rob Scott from STS looks like Paul Merton?
2 Why has Public Image been reduced to just one measly page?
3 As you know, there are many cassette PD libraries around now, but why don't they ever include games featured in Public Image in their catalogues, like *Power Tetris*, *Crystal Mission*, *Puzznix*, *Spots* and *Axys*?
4 What games, other than those already mentioned, are lined up for the covertape? Why not use the PD games I've mentioned?



Is it Rob Scott of STS or is it Paul Merton? You decide. (Clue: it's not Paul Merton.)

To finish off, remember Rafaelle Cecco, featured in the Amstradica in *AA98* (*and whose games will be featured on the covertape for the next few months – Dave*)? Well, examine these in-code keypress cheats for two of his games:
***Cybernoid*: SEXY**
***Stormlord*: BRING ON THE GIRLS**
Does this give an insight into what goes on in programmers' minds?
Simon Pert, Gillingham

Poets' corner (sort of...)



I am a hairbrush.

I am Harry a hairbrush. I want to brush your hair. I brushed Rod's beard and I am going to brush your hair. I have already moved in and I will stay here forever, so Loopy Loo better watch out what's behind her.

Newsflash!

This is Kerry King from ITN News with three people that have seen Simon Forrester putting hedgehogs on to his arms to make people think he has got muscles. Number One is from the RSPCA. He says, "If anyone has got hedgehogs lock them up because Simon Forrester is about."

Well, thank you Number One. Now let's go over to Number Two. "I work in a café and I saw Simon feeding his arms. So I went over to him to ask if everything was okay and he was feeding these two hedgehogs bread and water. I was so surprised I fainted."

Let's see if Number Three can be as good. Number Three is Simon. What have you got to say for yourself? "I was walking down the street when these two hedgehogs jumped on me. They both went into some glue so they stuck to my arms. I was feeding them bread and water in the street so they wouldn't die. That is all I have to say."

Well, that is the newsflash. Saying goodbye to you. Good bye.

Simon Forrester, the monster

**There was a girl called Loopy Loo,
Who always sat on the loo,
One day she saw Simon Forrester,
And he made her run away for he was a monster.**

**She run from Forrester,
But she should have run faster,
For soon he caught her,
And bounced on her,
And he said, "My spell will cast on you."**

**He said his spell but I got out my spell,
And I said my magic word,
And Count Duckula came to my rescue,
And Count Duckula called his Nanny,
And she bounced on Forrester,
Loopy Loo went home and sat on the loo.**
Kerry King, Somewhere



Ah, you give yourself away in that final stanza, Kerry, where there is confusion over whether it's you or Lou that Simon is after. Freudian slip, or what? I reckon that you're secretly jealous of Lou (by the way it's spelt with a 'u', but I suppose this could have been a veiled insult). By the way, have you thought about seeking psychiatric help (I mean... Simon? Come on). **Dave**

1 We had a quick vote in the office. Me – nope. Andy – He does a bit. Clur – He's got the same number of eyes. Simon – Innit marvellous? Jonathan Nash (who wandered through the office as we were doing the poll) – who's Rob Scott?
2 Normal service has been resumed.
3 According to Simon none of the games you mentioned would actually work on cassette. Perhaps someone should have a go at writing tape compatible versions.
4 Ah, now that would be telling (in other words, none – but come on, the Cecco games take us up to issue 105; we won't be thinking about issue 106 until at least, let's see... issue 106, probably). **Dave**

Dear AA – Elite Club 2

I've returned to reading *Amstrad Action* after a long absence and it's certainly very different. "Who are Simon and Dave?" I thought as I read through.

I'm looking forward to *Elite* on the covertape and I've had an idea. Why not bring back the *Elite* club? This was a feature *AA* ran when *Elite* first came out in which players could exchange tips, cheats and advice. So how about it?

Overall, I think that *AA* is better than ever (if a little thinner).
Ben Taylor, Huddersfield



Can anyone remember the last issue in which we didn't mention Elite?

We could devote a corner of Reaction for a few months to reader tips for *Elite*. If you like the idea, write in with your *Elite* tips now and we'll get the feature underway as soon as the first letters arrive.

And don't think of us as thinner. We're just a leaner, meaner magazine... er... well, it almost worked. **Dave**

Dear AA – To whom it may concern

I don't know whether I should be writing to the Reaction section, query section or technical section but I have some questions:
A When my faithful CPC464 conks out – I hope never – I will need to replace it. Therefore I've looked in the shops and in *Amstrad Action* for a new one, but to no avail. Do you know of any suppliers? Also, will there be a new Amstrad out soon? I don't want to buy an old-fashioned CPC and then a couple of months later a new one comes out.
2 (Which should have been B but I'm just testing you to see if you're really reading this.) Is *Sim City* available on cassette? Where can I get hold of it?
3 I've got quite a few credit notes from Price Busters who used to advertise in *AA*. I've tried to contact them to see if I can still use the notes but have had no reply since June. Do you know if PB still exists?
4 Do you like my writing paper?
5 My budgie can say over 60 words. Can any other readers' budgies beat that?
6 Is your *AA* office open to the public? I would love to come and meet everyone. Could I have an invite please?
Love and hugs,
Vicky Bowen, Nailsea
PS If I send you a cheque for £10 will you send me one for £50?
PPS Keep up the good work.



Vicky Bowen's writing paper. We reserve comment. You make up your own minds.

A Unfortunately the CPC isn't in production anymore so trying to find new ones is very difficult. You're best bet is to check out the small ads section for a second hand CPC. But if anyone does know of anywhere selling pristine CPCs, drop us a line.
B (Darn! Caught napping.) *Sim City* was available on cassette, but it's not generally available at the moment and very hard to track down.
3 Unfortunately, Price Busters pulled out of the computer market earlier this year but they still deal in technical musical equipment. Give them a ring on 021 440 4108.
4 No comment.
5 That's almost a bigger vocabulary than Simon's.
6 Unfortunately the *AA* office isn't open to the public. We'd never get any work done if it was (mainly because Simon would spend the whole day chatting up any girls who wandered in).
PS No.
PPS Then again... **Dave**

Dear AA – So there

I am writing in response to Janice Morgan's letter (Reaction, *AA*97).
1 In the six months I have been learning to program with *AA*'s help I have learnt more than I did in the year prior to buying the mag.
2 I have had two covertapes that didn't work. I didn't send them off to be replaced. I knew there would be more to come so I accepted it as a petty loss.
3 Your loss babe.

I agree, guys, you can't please everyone all the time. If we went through life getting every little thing we wanted what would be the point? I bought my first *AA* as an attempt to perhaps pick on a hint of something. I was instantly hooked.



This came with John's letter – we reckon it's a self-portrait, but why has it got breasts?

In the short time since I have been buying *AA* I have started a PD library, started work on an adventure and begun to create a tape version of the 464 manual which, thanks to *AA*, will be updated until the last byte is typed.

So, in my opinion, long live the 8-bit. And long live *Amstrad Action*. Amen and to hell with all those who say otherwise.
John Jones, Northumberland

1 Aw, shucks. We're here to serve.
2 But if you do have faulty covertapes, please feel free to get them replaced by Ablex. No-one should put up with faulty tapes (see page 5).
3 The views expressed in these letters are not necessarily the views of the *AA* staff... etc. **Dave**

Short sharp shock treatment

What kind of motorbike has Andy got?
John Fee, Co. Louth, Ireland

To Andy it's a Harley (we haven't got the heart tell him they never made a 50CC version of the bike). **Dave**

As an avid reader of your fab magazine I was pleased to hear that Campursoft are getting ready to put software on cartridge. Will the software be games as well as utilities?
Mike Leighton, Newport

Utilities only, I'm afraid. **Dave**

Is there a make of hard drive which is compatible with the 464? If so, which and who stocks them?
Alan Snaith, Sunderland.

Unfortunately not. Campursoft were developing one (see *AA*95) but never actually finished the thing. **Dave**



Reader Ads

(Coninued from page 35)

Software disks: Arkanoid, Dragon Ninja, Tasword, Tasspell, Instant Recall, Mini Office II, Tetris, Plan 14, all £5. Plus mags, books, tapes. For list phone phone phone Ian 7-10pm or weekends 081 2201469.

Amstrad CPC464 with CTM 640 colour monitor and DDI-1 disk drive, range of games on disk and tape. Joystick and manuals. Contact Richard 081 866 6900 after 7pm, £150 ONO.

Amstrad colour monitor, CTM644 sellingseperately £75. Rombo rombox with 3 ROMs: Protext, Maxam and Romdos, £30. Software bundle, over 50 on tape and 20 on disk, £40. Phone 0237 424656.

Basic Programming for Amstrad 464, 644, 6128 manual, £5. Advanced Programming Techniques 464 manual, £5. Also games, tape 464, send SAE for list. Dee, 57 Kent Road, Parkfields, Wolverhampton. WV2 2BB.

Amstrad CPC6128, disk drive, colour monitor, cassette player, Art package + mouse, 140 games, 35 on disk, 50 blank disks, 2 joysticks, manual. £160 ONO 061 427 1760.

6128, colour manuals, multiface, system disks - £165. 80 back issues of AA, covar tapes, loads games, cassette and disk. 464 firmware, manual, Devpack 80, light pen and more. Call for details 0342 301301.

CPC 464, as new, green screen, £400 worth of software, loads of Amstrad Action magazines, 1 joystick, £150 OVNO. Call 0642 597695, ask for Peter, buyer collects.

CPC464, colour monitor, disk drive, speakers, over £110 worth of software including GAC, MAXAM. Cost £761 new, will sell for £380 ONO. Buyer collects (Cardiff). Phone Rachael on 0222 530332.

Amstrad CPC464 computer. 64K memory, modulator, green screen, over £200 worth of games, a couple of magazines with cover tapes, all for £200. Ring 0270 505609.

Eliminator fanzine, top fanzine with top tips, cheats, reviews, letters, club section and special offers. Only 70p. Send your 70p and an SAE to 14 Station Road, Riccall, York, YO4 6QJ.

Moon Walker £4, Escape from the Robot Monsters £4, The Animator - cost £20 sell for £15. Prices include postage and packaging. Write to Alan Payne, 89 Wolverhampton Road, Codsall, Wolverhampton. WV8 1PL.

Amstrad GT65 green screen monitor £30, 30 Amstrad games £10, lightpen £5. Call Robert on 071 609 0860.

18 Sega game gear games, wide range with box and instructions and VGC, £15 each ONO. Also 2 Master System games £18 each ONO. Tel: 061 969 1847.

Brunwood Elite and Headline, 8-bit printer port £35. Pace RS232 i/f £25. Multiface 2 £25. All with manuals. Various other disks. Phone Jim on 0236 724154 till 6pm.

Amstrad CPC 6128 colour monitor manual, two joysticks, 60 disk games, cassettes, disk inc. Starglider Harrier, Air Sea Supremacy, Pawn Art Studio, excellent condition, bargain at £100. Tel: Gary 0634 370523 (Kent).

6128 Keyboard, offers. Amx mouse and interface £25. Brunword, Elite £45. OCP Art Studio £10. Lots of games plus blank disks £10. All above for £75 the lot. Tel: 0304 831884.

Will swap Moonwalker, Arkanoid, Who Dares Wins 2 and Turican 2 tape 464 for Lemmings or Bart v Space Mutants or Narc or Turtles Coin Op (tape). Tel: Glenn 0795 537942.

CPC 464, colour monitor, TV modulator, 2 joy sticks, Lightgun, approx 196 games, loads of AA's, dust covers, cassette racks, worth over £450, bargain at £150. Tel: 071 223 8678.

Amstrad CPC 464 with green screen, joystick, MP1 adaptor, 64k memory expansion, 40 games, 30 copies or Amstrad Action with cover tapes, £125. Tel: 0772 700319 (after 6pm).

ACU plus CPC Attack mags: March '90 to Oct '92, 40p each plus SAE big enough for the mags to: P Adkins (Mags), 34 Sedgley Close, Abbeydale, Redditch, Worcs, B98 8JP (give alternatives).

Amstrad 6128 colour monitor, joystick, 165 games, programs include North/South, Final Fight, Tasword, AA65-95, all covertapes, leads for cassette manual. Also drum kit and GAC, good condition, sell for £225. Tel: Mr Dunn 0274 675904.

CPC 6128 colour monitor, original discs and manuals, DMP 2000 printer, Firmware manual, lots of games and software on disk and tape, ACU mags 10/85-2/89. Best offer. Telephone: 021 350 6972.

Amstrad CPC 464 Colour Monitor joystick, over 50 games, £100. Telephone 0689 855164.

CPC 6128 colour siren 3.5-inch disk drive, Rombox, DTP, art and word processing software, mouse, some AA cassettes, some games, £235 cash. Tel: Andrew 0225 873200 (evenings).

Amstrad CPC 6128, CTM 664 Colour Monitor, stop press, Advanced Art Studio, loads of games, other software, magazines and peripherals, complete with joystick and mouse plus table, £399 ono. Tel: 0234 870571.

Amstrad PCW 9512 superb condition with dust cover, only £120. Telephone 0883 715193.

Amstrad CPC 464 colour monitor, 28 games, 2 joysticks, tape drive, good condition, £100 ono, or all games £30. Tel: 0245 260397.

Amstrad CPC 46C with colour monitor, manual, 2 joysticks, lots of games and a few Amstrad Action, excellent condition, £120. Tel: 021 311 1796 (Sutton Coldfield, Birmingham).

WANTED

MP3 modulator/TV tuner for use with a CTM644 monitor. Phone 081 852 4647 any time. Ask for Val.

Adventure games wanted, will pay best prices. Also require Elite on cass.

Loads of games/utilities wanted for PD library, tape or disk. All will be returned ASAP with extra games ect. (No extra games on tape - sorry record button broken!). Phone Damiano on 0259 731518 or 0259 731256.

Wanted for Amstrad CPC 464 Plus Magicland Dizzy on tape and some Dizzy cheats. If someone can help contact Carl Davey on 0392 422920.

Amstrad printer DMP200 or DMP3160. Phone Billercay (0277) 651698.

DMP2000 or any cheap printer wanted. Fair price. Leads to be included. Antoinette O'Donnell, Scittal, Ballylanders, Co. Limerick, Eire.

Wonderboy in Monsterland and Pacland wanted on CPC464 tape, must be in original boxes, will pay anything up to £5 each. Telephone 0795 583203, evenings after 7pm.

Amstrad Pace V21/V23 modem, user manual. Graham Hall 091 4567878 between 6 and 9pm.

Printer for 464, with load and manual. Phone 06973 32745.

Bards Tale on disk desperately wanted for Amstrad CPC6128 . Phone 081 5676355 after 5pm. Ask for Douglas.

Colour monitor for Amstrad CPC464, will exchange for green screen with cash adjustment, or buy out right if reasonable. Phone Michelle on 0766 810221.

OKI Microline 82A serial printer instruction manual urgently required. Call Jamie on 0507 343596. Reasonable price will be paid.

Wanted Amstrad Lemmings (cass) for CPC464. Price negotiable. Call David, 0387 73313 (after 6pm). If engaged try again later.

Wanted: Outrun levels, Send letter to 58 Whhddon Chase, Aylesbury, Bucks. HP19 3QP.

Amstrad DMP1 printer urgently wanted, must be working, good condition, will pay reasonable price. Phone Rubina 081 5034089, weekdays after 4pm, weekends any time.

3D Construction Kit (disk version) wanted desperately for CPC 6128, will pay reasonable price. Write to Adrian Lybaek, #13-4695 53rd Street Delta, BL, Canada. Y4K 2Y9.

RS232 interface for CPC464 wanted to use with SM2400 modem. Also software for coms and DK 64k rampak required, must be cheap. Phone Dave on 0424 443483.

Brunspell Expert desperately needed. How can I build up a second or third dictionary from my list of ASCII files? Please writ, all postage refunded. B Snel, 8 St. Augustine Road, Southsea, Hants. PO4 9AD.

Wanted, Amstrad CPC 6128 printer, less than one hundred. Lovejinder, 79 Warmwell lane, Ripley, Derbyshire. DE5 8JB. (Preferably a DMP 200 printer.)

CTM 644 colour monitor wanted, good price paid. Also Multiface 2 for CPC. Printer manuals required for DMP 1 and DMP 2160, will buy photocopies, Please help, Peter 0376 519360.

Wanted desperately, cheap add-ons for 6128 or 464 ie. 3.5-inch disk drives, printers, Multiface, ect. Also Tasword from AA91. 0900 67078, ask for Kevin.

Wanted Space Crusade (tape), will swap for Chequered Flag compilation (3 games) and Alien Highway and Dragons Lair 2 (all tapes). Phone Alastair James on 0502 731249 after 5pm.

Wanted Amstrad CPC464 with leads for television, willing to swap new Nintendo, still boxed with four games, unwanted gift. Mrs M Hayes, 14 Guy Street, Higher Broughton, Salford 8, M8 7EJ.

Any Amstrad CPC464 games for exchange or purchase. Reasonable prices paid. Tel: Tazmin 0932 865685.

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FREE READER ADS!

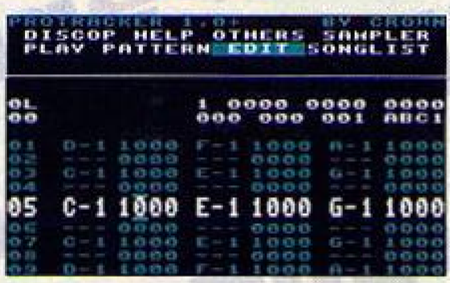
It's true – you can advertise in Amstrad Action for NOTHING! It's all part of our continuing efforts to provide you with the best value magazine possible.

Classification. Tick box: ❑ For Sale ❑ Wanted ❑ Services ❑ User Groups ❑ Other

Write your advertisement here, one word per box. Include your name and phone number if you want them printed.

Public Image

Like all the best things in life, PD software is free... well sort of. Yeah, okay there are things like shareware fees and postage to pay, but it's still darned cheap and darned good stuff, alright? And here's Keith Woods to prove it...



You could try creating tunes using Protracker but we wouldn't recommend it.

Digitracker versus Protracker

● *Digitracker* by Prodatron of Symbiosis, available from Amsof PD.
● *Protracker* by Crown of BENG!, available from Amsof and The Vault.

Although programs for transferring Amiga graphics have long been available, nobody's ever come up with anything for porting sounds. Then, low and behold, two very similar programs for transferring Amiga modules arrive on the scene within one or two months of each other. A spooky coincidence? I don't think so, but we won't worry about that, we'll just get on with the review...

On loading, both programs look just like any other music utility, with screens dominated by the familiar three channels of notes and numbers, while tunes are created using the standard method of linking patterns. However,



Swiping sounds from the Amiga for use on the Amstrad is what Digitracker is all about.

don't be fooled by the appearance; the pattern editor's only real use is for making alterations to transferred modules. Even with the benefit of sampled instruments, trying to build up a tune from scratch would try the patience of a saint, even the patron saint of patience whoever that might be, so if you're looking for a program to exert musical inspiration on, look elsewhere.

As regards their primary function of transferring Amiga modules, both programs work admirably, producing surprisingly good results.

Jumpmania

By Fraggle of MOPS
Available from Amsof PD and The Vault

The man of a million puzzle games is back with probably his best game yet. This latest offering from Fraggle puts you in the role of a bouncing Smiley that's got to bounce its way through 30



I've heard of crazy paving but this is ridiculous. I'm beginning to think someone doesn't like me.

brain-teasing levels to escape to wherever it is that Smileys escape to.

To progress from one level to the next our happy hero has to destroy all the blocks on-screen. Blocks simply melt away when our friend passes over them, but as well as being the solution, that's also the problem, as it means he can't retrace his steps to reach any he's missed. And, predictably, the matter is further complicated





by all manner of interesting extras, such as blocks that have to be crossed twice, ice blocks that Smiley can't stop on and, worst of all, chessboard blocks which must be the last our yellow hero touches.

It's not all bad news though. On most levels Smiley gets a number of big bounces, ranging from leaps of two to four blocks, to help him out. There's also a password for each level, so that you don't get bored repeating earlier accomplishments.

Presentation-wise, it's very hard to find a fault with the game. The graphics are beautiful and the animation is pixel-perfect. You've got a choice of music or sound effects, both of which are excellent, and a menu with every option imaginable, including the facility to create your own levels.

Of course, it's gameplay that's most important, and here too Fraggle excels himself. The game is fun, and with 30 well-designed levels which get progressively trickier as you go along, you know this is one that'll keep you hooked.



Is this the road to hell, the pathway to purgotory or even the moving walkway to somewhere not very pleasnat at all? Or is it a puzzly game-type thing?

It may be shareware, but the paltry price tag is well worth paying, because, as puzzlers go, you'll never get a better game than this.

92%



They say it's bad luck to walk on the cracks in the pavement. Here it's bad luck just about everywhere you stick you plates of meat.



Digitracker (above) has one major advantage over Protracker, but you're going to have to read the review to find out what it is.

and to print out the modules before they've been transferred. This is a particularly useful facility when it comes to deciding which of the four Amiga sound channels you're going to cut and mix to reduce your module to three-channel CPC format. With *Protracker*, which doesn't have this option, you've got to make a few stabs in the dark to discover which way sounds best.


Do you understand German? You'll need to if you want to read Digi's instructions.

It's only when you get down to the nitty gritty of things and start to mess around with your transferred sounds that you notice the differences between the two programs.

The first thing to hit you is *Digitracker*'s sweeter visage which boasts a full-screen display – as opposed to its competitor's Speccy-like appearance – and a colourful intro menu. But, *Protracker* still triumphs in the presentation stakes because it has an extensive English instructions which can be read from within the program itself, while *Digitraker*'s instructions are in German and must be loaded into a word processor that can handle 30K files.

If you can manage to figure them out without the benefit of instructions, there are far more options available in *Digitracker*. It also has more memory space for your samples and loads of additional features when it comes to transferring the modules. Among these is the ability to transfer PC samples,

Digitracker can also handle far bigger modules than *Protracker* by virtue of the fact that it can cut their lengths in half by removing every second byte. The reduction in sound quality isn't all that drastic, and using this option you can transfer files of up to a about 140K. Plus owners might also be interested to know that *Digitracker*, unlike its *BENG!* counterpart, is also compatible with their machines, though, no



Protracker doesn't look half as impressive as Digitracker but in terms of features they're about the same.

doubt, by the time you read this Crown will have sorted out all problems.

Protracker is not without its advantages, the most significant of which is the powerful sample editor. This not only features a whole host of useful options, but also presents you with a nifty little graphical representation of your instruments. The other major thing in *Protracker*'s favour is that it's completely free, while *Digitracker* will set you back a £4 shareware fee.

From what we've looked at so far, the programs are pretty evenly matched, with each advantage in one being offset by something equally impressive in the other. However, there's one factor that wins the day for *Digitracker*. It allows you to use transferred tunes outside the environs of the program. This opens up the possibility of using them within your own programs, and so makes *Digi* the better of two excellent utilities.

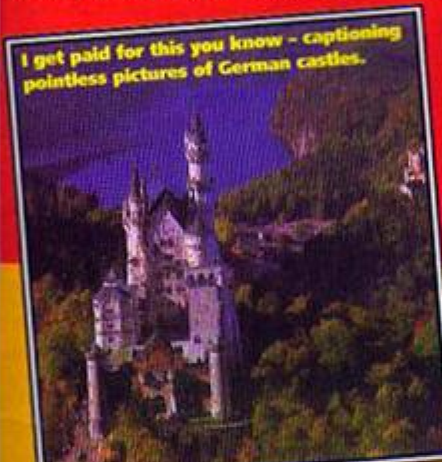
Digitracker 90%

Protracker 84%

A real Pro PD Programmer

The more ardent PD fans among you will have noticed the name Crown popping up with alarming regularity recently. In fact, it pops up again this month, because he's the man responsible for this great *Protracker* thingy.

Crown is 22-years old and of Teutonic extraction. Among his past glories in the PD scene are *Crime*, *Crunch* and *Turbo Imploder*. So, I thought it was about time we had a little chat with this fellow, and found out a little more about the man behind the utilities.....


I get paid for this you know – captioning pointless pictures of German castles.

So Crown, what's your occupation?
I'm studying microelectronics at university.

What do you get up to in your spare time?
My hobbies are Gotcha, role-playing adventures, badminton, going to discos, the CPC (of course) and walking through my country's beautiful forests. I also like visiting Denmark and the Scandinavian countries, and reading books by Isaac Asimov and Larry Niven and the American Dredd Rulez comics.

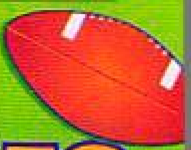
When did you start to code, and why?
You don't learn coding from one day to the next. I just liked this computer, and wanted to learn more about it. Once I'd learnt BASIC, I moved on to Machine Code, as I'd heard how much faster it is. I've been coding in Assembler and Machine Code for several years now, and I've realised that the deeper you go into the hardware details, the more you'll learn about the CPC.

What inspired you to code *Protracker*?
I was just interested to see if you could make real music on the CPC as you can on the Amiga. You probably know that the Amiga Freelancers' *Protracker* is PD and is the world's best music program for this machine (*er, no, I didn't actually – Keith*). Well anyway, you're much more motivated if you're coding to prove yourself instead of for money, and so all my productions are now Public Domain. I should thank the Amiga Freelancers from Norway for inspiring me.

Are you working on any new products?
Well, I'm always working on something, but I don't want to say anything about it because this would force me to finish it and I never want to force myself to do anything. I like to be free in my decisions. Writing programs is primarily always for fun for me.

Next month

Next time around we'll be putting two more games from the MOPS stable through the Public Image rigorous reviewing regime. And if you've been wondering what 'The Vault' maybe next month I'll finally let you know.



Touchdown

£4.95 cass ■ £14.95 disk ■ Strike Force Design ■ 28 Noble Street, Hendon, Tyne & Wear SR2 8LU

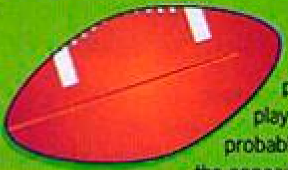
It's the Amstrad Aardvarks versus the Strike Force Seagulls as AA's latest signing, Clur Hodgson, takes on an American Football management sim.

Wa-hay, my first day on the job and they tell me I'll be playing American Football. So I turned up in all the gear, pads and all, ready to rumble with the quarterbacks. Did I feel a fool when I found out that all they wanted me to do was review the new Amstrad management sim *Touchdown*.

Admittedly at first I was a little disappointed that I wouldn't get to meet the big guys but my disappointment soon dissipated as I got into the second quarter of the first game. My wide receiver Carter was the original Mr Butter-fingers, but I decided to give him one last chance on a right-post play, and would you believe it, the kid done good. I was six-nil down at the point when Carter managed to wrap his slippy little fingers around the ball and run 67 yards for a touchdown (even the PAT was good).



I'd never really contemplated it before but American Football is one of the few sports that readily lends itself to the management-style game format. Once you get your head around it, the whole ball game is about



working out the probability of a certain play succeeding against the probable defence strategy of the opposition. So a mind-game based on American Football has the potential to be immensely playable, especially when you've got a pass-by-pass account of each play because that way you can really get into the players' characters and abilities.



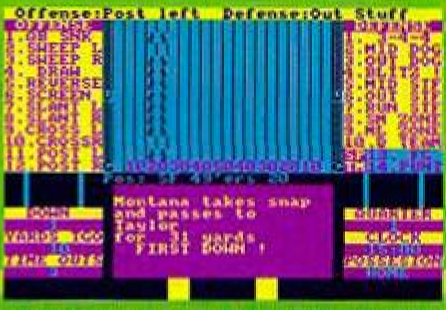
Ten, ten, ten, it crops up everywhere in this game – what can it mean to a day dream believer?

There are effectively two games to review here, as the programmers have severely cut down the code for the cheaper cassette version. The disk version allows for the full range of defensive plays, whereas the tape offers only a cut-down group of options. And unlike the disk version on tape you can't transfer players and there's only one season's play. At the end of every disk season (unless you get fired by the boss), you have the chance to check out the college scene for new talent and bargain with other managers for their star players.



2, 4, 6, 8, who do we appreciate? T, A, Y, L, O, R, Taylor! Ra, ra, ra. Yeeeeaaaaaaaaa!!!!! (But not Graham Taylor.)

To put it rather bluntly I wouldn't really bother to fork out the price for the tape version, unless you're a collector of football trivia. But the disk version is definitely worth checking out; you can go through years and years of American history, watching your team improve and grow with your management skills.



Push the ball forward over ten yards in four goes and you get what's known in the trade as a first down.

There are a few bugs to contend with which only seem to come into play once you've reached the play-offs, but on disk the game saves itself automatically so that if the program does fall down around your ears it doesn't mean you'll have to start from scratch. In fact, the only way to start again is to run a neat little program that comes on the disk which resets all the variables to their original defaults.

Touchdown is, without doubt, a great little management sim (if a little too easy to beat if you know your footie tactics well), but that's all it is. Graphically it leaves a lot to be desired so it's not likely to bring in new players to the world of management sims. But if strategy and tactics rate above fast action and flashy graphics in your gameplay priorities, *Touchdown* has got what it takes. **Clur**

VERDICT

GRAPHICS — **50%**
It's a sports management sim, what do you expect – Da Vinci?

SONICS — **40%**
Some white noise disguised as cheering and that's about it.

GRAB FACTOR — **65%**
Unlike some management sims you get results right from the first game.

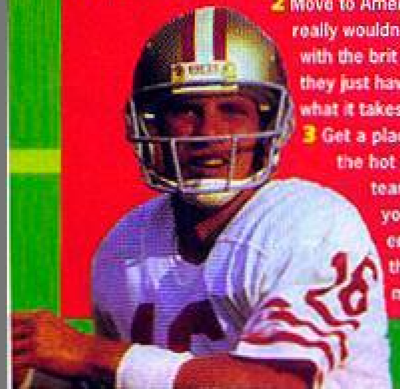
STAYING POWER — **82%**
On disk it's one of the best management sims I've played.

The disk version is actually great fun with loads and features and quite a bit of action. The tape version, though, is too severely cut down.

RATING 72%

American Football: the secrets of success

1 Get yourself a body building kit and pump iron until you just can't pump no more. Then, at least if you don't get on a football team you'll be offered the lead in the next James Cameron movie.



2 Move to America – I really wouldn't bother with the brit teams, they just haven't got what it takes.

3 Get a place in one of the hot college teams, if you're good enough at the game most of 'em will ignore your grades (which won't be much cop anyway 'cos you spent most of school life playing truant down the gym).

4 Go to loads and loads of parties - it's not what you know, it's who you know.

5 Don't drink, do drugs, sleep with anyone you haven't had checked out by CIA or do crass advertisements for toilet roll; the tabloids would have a field day and your career would be in ruins (but you could always become a commentator on SKY).

6 Do come from an all-American family, have loads of baby brothers and sisters, have a cute pet that will sit still to be photographed and have short spiky blond hair (get adopted if necessary).

7 But most important of all be incredibly tell everyone how brilliant you are at every opportunity.

GAMES O

People are always moaning about not being able to find CPC software on shop shelves anymore. Well, you won't find any in EDOS stores, but they've got hundreds of games for sale. Clur explains how it all works.

Imagine, if you will, that you're a computer software retailer. Let's make no bones about it – ultimately you're in it for the money; you want as many people buying software from your shop as possible. Which means making sure you stock the games that your public want to buy. Which, in turn, means paying out loads and loads of money to buy the stock from the publishers to sell in your shop. But what happens when no one buys any of the 300 copies of *Count Duckula 2* and you're left with a pile of them to either sell off at a loss or dispose of them in any way you can to make some room for the latest releases? Part of the reason conventional shops no longer stock CPC games is precisely because of the risk of losing money this way.

To aid the plight of many a retailer a cuddly company called Software on Demand have launched a computer software sales system that they call EDOS (Electronic Distribution Of Software). What this basically means is that the game you want to buy, instead of sitting on a shelf until you come along, is duplicated for you on to a brand new tape or disk as you wait. The process only takes a few seconds as all the games are stored on a CD-ROM inside the EDOS computer that the retailer has got plugged in, "out the back".

I see no pirates

Before you start accusing people of piracy, every single game that is purchased using the system is registered and the due royalties are paid to the publishers. Software on Demand keep track of what's been sold via modems built into every single machine which are constantly plugged into the phone line.

The system is great news for Amstrad users, because whereas a lot of normal traders consider the CPC market far to small to invest any of their capital in. But with an EDOS machine no payment is made by the shop until they've actually sold the game and have got the money in the till – low risk retailing.

What's in it for you?

Form the point of view of the consumer the system seems to work very well. You just pick the game you want from the display of empty boxes on the wall and take your choice to the check out. The sales man will need to know which computer system you have and on

What EDOS has got for the CPC?

GAME	PUBLISHER	TAPE	DISK
1st Division Manager	CodeMasters	£3.99	
3D Snooker	Fun Factory	£2.99	
3D Starfighter	CodeMasters	£3.99	
4 Soccer Simulator	CodeMasters	£3.99	£7.99
500cc Grand Prix	Microids	£3.99	£7.99
Academy	Alternative	£3.99	
Ace	Elite	£2.99	
Ace 2	Elite	£2.99	
Action Force	Tronix	£3.99	
Action Service	Fun Factory	£2.99	
Advanced Fruit Machine	CodeMasters	£3.99	£7.99
Advanced Pinball Simulator	CodeMasters	£3.99	£7.99
Advanced Rugby Simulator	Codemasters	£3.99	£7.99
Advanced Ski Simulator	CodeMasters	£3.99	£7.99
Aliens US Version	Alternative	£3.99	
American Turbo King	Tronix	£3.99	
Andy Capp	Alternative	£3.99	
Antiriad	HiTec	£3.99	
Arcade Flight	CodeMasters	£3.99	
Arcade Trivia	Zeppelin	£2.99	
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Assault Course	Fun Factory	£2.99	
ATV Simulator	CodeMasters	£3.99	
Australian Rules	Alternative	£4.99	
Backgammon Royale	Oxford Softworks	£3.99	£7.99
Battle Valley	21st Century	£3.99	
Battleships	Elite	£3.99	£7.99
Batty	Elite	£2.99	
Beyond the Ice Palace	Elite	£3.99	
Biff	Beyond Belief	£3.99	
Big Trouble In Little Trouble	Alternative	£3.99	
Bigfoot	Codemasters	£3.99	£7.99
Billy The Kid	Tronix	£3.99	
Bionic Commando	Kixx	£3.99	
Bionic Ninja	Zeppelin	£2.99	
Black Tiger	Kixx	£3.99	£7.99
Blade Warrior	CodeMasters	£3.99	
Blazing Thunder	HiTec	£3.99	
BMX Freestyle	CodeMasters	£3.99	
BMX Ninja	Alternative	£3.99	
BMX Simulator	CodeMasters	£3.99	
BMX Simulator 2	Codemasters	£3.99	
Boulderdash	Prism	£3.99	
Boulderdash Construction Kit	Software Business	£3.99	£7.99
Bounty Hunters	CodeMasters	£3.99	
Brainache	CodeMasters	£3.99	
Bridge Player	Oxford Softworks	£3.99	£7.99
Bronx Street Cop	Tronix	£3.99	
Captain Blood	Fun Factory	£2.99	
Captain Dynamo	CodeMasters	£3.99	
Captain S	Alternative	£3.99	
Cauldron	HiTec	£3.99	
Cauldron 2	HiTec	£3.99	
Cavemania	Atlantis	£3.99	£7.99
Champion Baseball	Alternative	£3.99	
Champion Sprint	Alternative	£3.99	
Championship Jetski	CodeMasters	£3.99	
Championship Waterski Challenge	Fun Factory	£2.99	
Chess Player	Oxford Softworks	£3.99	£7.99
Chicago 90	Microids	£3.99	£7.99
Classic Arcadia	Alternative	£3.99	
Classic Arcadia	Alternative	£3.99	
Classic Punter	GTI Software	£3.99	
Classic Trainer	GTI Software	£3.99	

GAME	PUBLISHER	TAPE	DISK
Cobra	Loriciel	£3.99	
Cobra Force	Fun Factory	£2.99	
Colossus 4 Bridge	CDS	£3.99	£7.99
Colossus Chess 4	CDS	£3.99	£7.99
Combat Lynx	Elite	£2.99	
Combat Zone	Alternative	£3.99	
Confusion	Alternative	£3.99	
Count Duckula	Alternative	£3.99	
Count Duckula 2	Alternative	£3.99	
Cowboy Kidz	Byte Back	£2.99	
Crack Up	Atlantis	£2.99	
Crazy Cars	Titus	£3.99	£9.99
Crazy Cars 2	Titus	£3.99	
Crazy Shot	Loriciel		£7.99
Captain Cricket	HiTec	£3.99	
Cricket Crazy	Alternative	£3.99	
Cricket International	Alternative	£3.99	
Cricket Master	Challenge Software	£3.99	
Critical Mass	Elite	£2.99	
Cross Fire	Atlantis	£2.99	
Daley Thompson Decathlon	Ocean	£3.99	
Daley Thompson Supertest	Ocean	£3.99	
Dandy	Alternative	£3.99	
Dark Century	Titus	£9.99	
Deadly Evil	Fun Factory	£2.99	
Death Stalker	CodeMasters	£3.99	
Deep Strike	Elite	£2.99	
Die Alien Slime	Tronix	£3.99	
Dizzy	CodeMasters	£3.99	£7.99
Dizzy Dice	Fun Factory	£3.99	£7.99
Dizzy Down The Rapids	CodeMasters	£3.99	
Dizzy Prince Of The Yolk Folk	CodeMasters	£3.99	
Double Dragon	Tronix		£7.99
Double Dragon 2	Tronix	£3.99	£7.99
Draughts	Oxford Softworks	£3.99	£7.99
Dynasty Wars	Kixx	£3.99	£7.99
E-Motion	Kixx	£3.99	£7.99
Eagle's Nest	Fun Factory	£3.99	£7.99
Eagle's Rider	Microids		£7.99
Edd The Duck	Zeppelin	£3.99	£7.99
Eliminator	21st Century	£3.99	£7.99
Elven Warrior	Fun Factory	£2.99	
Emlyn Hughes International Soccer	Audiogenic	£3.99	£7.99
Endzone	Alternative	£3.99	
Enterprise	Tronix	£3.99	
Euro Boss	Challenge	£3.99	
European Champions	Challenge	£3.99	
European Soccer Challenge	Fun Factory	£3.99	£7.99
European Superleague	CDS Software		£7.99
Everyone's A Wally	Alternative	£3.99	
Exolon	21st Century	£4.99	
Exploding Wall	Byte Back	£2.99	
F1 Tornado	Zeppelin	£3.99	£7.99
Fantasy World Dizzy	CodeMasters	£3.99	£7.99
Fast Food Dizzy	CodeMasters	£3.99	£7.99
Fighting Warrior	Tronix	£3.99	
Fire and Forget	Titus	£3.99	£9.99
Fire Lord	21st Century	£3.99	£7.99
Flight Simulator	Alternative	£3.99	
Football Frenzy	Alternative	£3.99	
Football Manager	Prism	£3.99	
Football Manager 2	Prism	£3.99	£7.99
Football Manager World Cup	Prism	£3.99	£7.99
Footballer Of The Year 2	Gremlin	£3.99	£7.99

GAME	PUBLISHER	TAPE	DISK
Frankenstein Junior	CodeMasters	£3.99	
Freddy Hardest	Alternative	£3.99	
Frontline	Zeppelin	£2.99	
Fruit Machine	Zeppelin	£3.99	£7.99
Fruit Machine 2	CodeMasters	£3.99	
Future Bike Simulator	HiTec	£3.99	
Galactic Conqueror	Titus	£3.99	£9.99
Game Over	Alternative	£3.99	
Game Over 2	Alternative	£3.99	
Ghost Hunters	CodeMasters	£3.99	
Gilbert	Alternative	£3.99	
Glider Rider	Grandslam	£3.99	£7.99
Go For Gold	Kixx		£7.99
Graham Gooch	Alternative	£3.99	
Grand Prix 2	CodeMasters	£3.99	
Grand Prix Simulator	Codemasters	£3.99	
Great Escape	Ocean	£3.99	
Great Gurianos	Elite	£2.99	
Gregory Loses His Clock	Tronix	£3.99	
Grid Iron 2	Alternative	£3.99	
Guardian 2	HiTec	£3.99	
Guardian Angel	CodeMasters	£3.99	
Gun Boat	Alternative	£3.99	
Gunfighter	Atlantis	£2.99	
Hurricana	Loriciel	£3.99	£7.99
Havoc	Fun Factory	£2.99	
Head Over Heels	Ocean	£3.99	
Helter Skelter	Audiogenic	£3.99	£7.99
Hercules	Byte Back	£2.99	
High Steel	Alternative	£3.99	
Highway Patrol	Microids	£3.99	£7.99
Hit Squad	CodeMasters	£3.99	
Hobgoblin	Atlantis	£3.99	£7.99
Howard The Duck	Alternative	£3.99	
Huxley Pig	Alternative	£3.99	
Hydrofool	21st Century	£3.99	
Ice Temple	CDS	£2.99	
Impact	Audiogenic	£7.99	£7.99
Impossible Mission 2	Kixx	£3.99	£7.99
Impossamole	Gremlin	£3.99	
Italia 90	Tronix	£3.99	
Italian Supercar	Codemasters	£3.99	
Jimmy's Soccer Manager	Beyond Belief	£3.99	
Jocky Wilson Darts	Zeppelin	£3.99	£7.99
Jaws	Alternative	£3.99	
Joe Blade	Fun Factory	£3.99	£7.99
Joe Blade 2	Fun Factory	£3.99	£7.99
Joe Blade 3	Fun factory	£2.99	
Judo Uchi-Mata	Alternative	£3.99	
Jungle Warfare	Tronix	£3.99	
Kenny Dalglish Soccer	Zeppelin	£3.99	
Kentucky Racing	Alternative	£3.99	
Kickstart 2	Tronix	£3.99	
Knight Force	Titus	£3.99	£9.99
Kokotoni Wilf	Elite	£2.99	
Kwik Snax	CodeMasters	£3.99	£7.99
Las Vegas Casino	Zeppelin	£3.99	£7.99
Last Duel	Kixx	£3.99	
League Challenge	Atlantis	£3.99	£7.99
Light Force	21st Century	£3.99	
Little Puff	CodeMasters	£3.99	£7.99
Los Angeles SWAT	Tronix	£3.99	
Macadam Bumper	Fun Factory	£2.99	
Mach 3	Loriciel	£3.99	£7.99
Mad Flunky	Alternative	£3.99	

GAME	PUBLISHER	TAPE	DISK
Magicland Dizzy	CodeMasters	£3.99	£7.99
Manchester United	Krysalis	£3.99	£7.99
Master Chess	Tronix	£3.99	
Match Day	Ocean	£3.99	
Matchpoint	Ocean	£3.99	
Meganova	Alternative	£3.99	
Mercenary English Version	Novagen	£3.99	£7.99
Micro Mouse	Tronix	£3.99	
Microball	Alternative	£3.99	
Mini Office	Alternative	£3.99	
MIG Busters	Fun Factory	£2.99	
MIG-29	CodeMasters	£3.99	£7.99
Medtrap	Tronix	£3.99	
Mission Jupiter	Codemasters	£3.99	
Monte Carlo Casino	CodeMaster	£3.99	
Monty Python's Flying Circus	Tronix	£3.99	
Moon Cresta	Alternative	£3.99	
Moontorc	Atlantis	£3.99	
Motor Cross Simulator	CodeMasters	£3.99	
Moving Target	Fun Factory	£2.99	
Munsters	Alternative	£3.99	
Mutant Fortress	Fun Factory	£2.99	
Mystery Indus Valley	Alternative	£3.99	
Nebulus	21st Century	£4.99	
Necris Dome	CodeMasters	£3.99	
Nell Android	Alternative	£3.99	
Netherworld	21st Century	£4.99	
Ninja Commando	Zeppelin	£3.99	£7.99
Ninja Massacre	CodeMasters	£3.99	
Ninja Warriors	Sales Curve	£3.99	£7.99
North Star	Byte Back	£2.99	
Off Shore Warrior	Titus	£3.99	£9.99
Oink	Alternative	£3.99	
Ollie and Lissa 3	CodeMasters	£3.99	
Operation Gunship	CodeMasters	£3.99	£7.99
Operation Hanoi	Fun Factory	£2.99	
Operation Hormuz	Alternative	£3.99	
Outlaw	Fun Factory	£2.99	
Para Academy	Zeppelin	£3.99	£7.99
Para Assault Course	Zeppelin	£2.99	
Periscope Up	Atlantis	£2.99	
Peter Beardsley's	Grandslam	£3.99	
Pool	CDS	£2.99	
Popeye	Alternative	£3.99	
Popeye 2	Alternative	£3.99	£7.99
Postman Pat	Alternative	£3.99	£7.99
Postman Pat 2	Alternative	£3.99	
Postman Pat 3	Alternative	£3.99	
Prison Riot	Fun Factory	£2.99	
Pro Boxing Simulator	CodeMasters	£3.99	£7.99
Pro Golf	Atlantis	£3.99	£7.99
Pro Golf Simulator	CodeMasters	£3.99	
Pro Mountain Bike	Alternative	£3.99	
Pro Powerboat Simulator	CodeMasters	£3.99	£7.99
Pro Snooker	CodeMasters	£3.99	
Pro Tennis	CodeMasters	£3.99	£7.99
Prohibition	Fun Factory	£2.99	
Protector	Tronix	£3.99	
Pub Trivia	CodeMasters	£3.99	
Punch and Judy	Alternative	£3.99	
Race, The	Fun Factory	£2.99	
Rad Ramp Racer	Tronix	£3.99	
Rally Driver	Alternative	£3.99	
Rally Simulator	Zeppelin	£3.99	£7.99
Raster Runner	Tronix	£3.99	

TAP



what format you would like the game (tape or disk) and then while he's dealing with the payment side of things your game is being duplicated (the people behind EDOS reckon that the system is so easy to use that even the dimmest of shop assistants couldn't mess it up, no matter how hard they didn't try.)

If you've been on the hunt for a particula· game then take a look at our list of the CPC games available on EDOS. You never know your luck, somewhere in those 388 games could be just the one you've been searching for all this time.

Where to find EDOS

At the moment you will find EDOS in:

69	John Menzies
30	Future Zones
2	W H Smiths
37	Independents retailers

For the rame of the nearest shop to you that uses the EDOS system, phone Software on Demand on 0782 566566 or fax them on 0782 565400. Alternatively you could write to them with your enquires at Software on Demand Ltd, Unit one, Rosevale Business Park, Newcastle-under-Lyme, Staffordshire ST5 7QT.

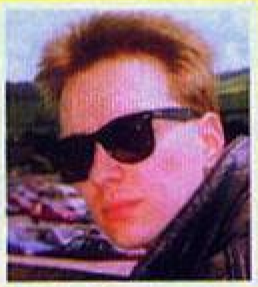
GAME	PUBLISHER	TAPE	DISK
RBI Baseball 2	Domark	£3.99	
Real Stunt Experts	Alternative	£3.99	
Red Arrows	Alternative	£3.99	
Rex	Alternative	£3.99	
Rik The Roadie	Alternative	£3.99	
Rock Star Ate My Hamster	CodeMasters	£3.99	
Rugby Boss	Alternative	£3.99	
Run For Gold	Alternative	£3.99	
Running Man	Grandslam	£3.99	£7.99
Saboteur	Elite	£2.99	
Saboteur 2	Elite	£2.99	
Saigon Combat Unit	Fu Factory	£2.99	
Sam Fox Strip Poker	Alternative	£3.99	
SAS Combat Simulator	CodeMasters	£3.99	£7.99
Scooby Doo	Elite Software	£3.99	£7.99
Secret Diary Of Adrian Mole	Alternative	£3.99	
Seymour Goes To Hollywood	CodeMasters	£3.99	
Shark	Fun Factory	£2.99	
Sharkey's Moll	Zeppelin	£3.99	
She Vampires	Alternative	£3.99	
Shockway Rider	21st Century	£3.99	
Side Arms	Kixx	£3.99	£7.99
Silkworm	The Sales Curve	£3.99	
Skateboard	CodeMasters	£3.99	
Skatin' USA	Atlantis	£3.99	£7.99
Smashed	Alternative	£3.99	
Snowball in Hell	Atlantis	£2.99	
Soccer Boss	Alternative	£3.99	
Soccer Director	GTI	£3.99	
Soccer Double	Challenge	£3.99	
Soccer Double 2	Challenge	£3.99	
Soccer Match	Impressions	£3.99	
Soccer Pinball	CodeMasters	£3.99	
Software House	D&H	£3.99	
Sooty and Sweep	Alternative	£3.99	
Sooty's Fun With Numbers	Alternative	£3.99	
Space Ace	Fu Factory	£2.99	
Space Racer	Loriciel	£3.99	£7.99
Space Rider	HiTec	£3.99	
Spaghetti Western	Zeppelin	£3.99	
Spellfire The Sorcerer	CodeMasters	£3.99	£7.99
Spherical	Rainbow Arts		£7.99
Spike in Transylvania	CodeMasters	£3.99	
Spindizzy	Alternative	£3.99	
Spitfire	Elite	£2.99	
Spitfire 40	Alternative	£3.99	
Splat	Alternative	£3.99	
Spooked	Fun factory	£2.99	
Spooky Castle	Atlantis	£3.99	£7.99
Spy Vs Spy	Software Business	£3.99	£7.99
Spy Vs Spy 2	Software Business	£3.99	£7.99
Spy Vs Spy 3	Software Business	£3.99	£7.99
Steel Eagle	Fun Factory	£2.99	
Steve Davis Snooker	CDS Software	£3.99	£7.99
Storm Lord	21st Century	£3.99	
Street Cred Boxing	Fun Factory	£2.99	
Street Cred Footie	Fun Factory	£2.99	
Street Gang Football	CodeMasters	£3.99	
Street Sports Basketball	Kixx	£3.99	
Strike Force Cobra	Alterative	£3.99	
Strike Force Harrier	Alternative	£3.99	
Subway Vigilante	Fun Factory	£2.99	
Super Hero	CodeMasters	£3.99	
Super League	Fu Factory	£2.99	
Super Off Road	Tronix	£3.99	

GAME	PUBLISHER	TAPE	DISK
Super Robin Hood	CodeMasters	£3.99	
Super Ski	Microids	£3.99	£7.99
Super Stunt Man	CodeMasters	£3.99	
Super Trux	Elite	£3.99	£7.99
Superkid	Atlantis	£3.99	£7.99
Superkid In Space	Atlantis	£3.99	£7.99
Superted	Alternative	£3.99	
Supertank Simulator	CodeMasters	£3.99	
Survivors	Atlantis	£3.99	
Syntax	CDS	£2.99	
System 8	CDS	£2.99	
T-Bird	Tronix	£3.99	
Tarzan	Alternative	£3.99	
Task Force	Fun Factory	£2.99	
Terra Cognita	CodeMasters	£3.99	
Terramex	Grandslam	£3.99	
The Flintstones	Grandslam	£3.99	
The Last Commando	Alternative	£3.99	
Theatre Europe	Alternative	£3.99	
Thomas The Tank Engine	Alternative	£3.99	
Thomas Fun With Words	Alternative	£3.99	
Tiger Road	Kixx	£3.99	
Titan	Titus	£3.99	£5.99
Titanic Blinky	Zeppelin	£3.99	
Tournament of Death	Fun Factory	£2.99	
Track Suit Manager	Alternative	£3.99	
Track Suit Manager	HiTec	£3.99	
Transmuter	CodeMasters	£3.99	
Trantor	Kixx	£3.99	
Trap Door	Alternative	£3.99	
Treasure Island Dizzy	CodeMasters	£3.99	£7.99
Treble Champions	Challenge	£4.99	
Turbo Bike	Alternative	£3.99	
Turbo Chopper	CodeMasters	£3.99	
Turbo Cup	Loriciel	£3.99	£7.99
Turbo Cup Challenge	Fun Factory	£2.99	
Turrican	Rainbow Arts		£7.99
Turrican 2	Rainbow Arts		£7.99
Twin Turbo V8	CodeMasters	£3.99	
Two-On-Two Basketball	Alternative	£3.99	
Undium	21st Century	£3.99	
US Basketmaster	Alternative	£3.99	
Vampire	CodeMasters	£3.99	
Vampyre Nosferatu	Alternative	£3.99	
Vixen	Alternative	£3.99	
War Machine	Fun Factory	£2.99	
Wembley Greyhounds	D&H	£3.99	
Werewolves of London	Gonzo Games	£3.99	£7.99
Who Dares	Alternative	£3.99	
Wild Streets	Titus	£3.99	£9.99
Windsurf Willie	Simarils		£7.99
Winter Games	Kixx	£3.99	
Wizard Warz	Kixx	£3.99	
Wizard's Lair	CDS	£2.99	
Wizzball	Ocean	£3.99	
Wombles	Alternative	£3.99	
World Champions	Challenge	£2.99	
World Series baseball	Ocean	£3.99	
World Soccer	Zeppelin	£3.99	
World Soccer League	Challenge	£2.99	
Wolfpack	CDS	£2.99	
X-Out	Rainbow Arts	£3.99	£7.99
Xenon	Sales Curve	£3.99	
Yeti	Alternative	£3.99	
Zynaps	21st Century	£4.99	

HISTOR

One hundred months, eight and a third years, two thousand nine hundred and 64 days. Yep, our one hundredth issue is a great excuse to call all our old mates and go out for a big booze up – but we had to justify the expenses on the company account somehow so we got 'em all to do a bit of work by making 'em fill in these questionnaires...

Tim Norris



Editor: AA91 to AA95
Favourite CPC game: Elite.
Worst CPC game: Eswat.
Favourite CPC utility: Micro Design 2.
Favourite issue of AA: The one with the cup on (AA94).
Most vivid memory of AA: Getting my first issue back from the printers.
Worst memory of AA: Those darned covertapes.
Where am I now? At home in front of the telly.
CPC could be an acronym for... Comfortable Purple Cushion.
Favourite pastime while waiting for Lords of Midnight to load: Playing Columns on the Game Gear.

Rod Lawton



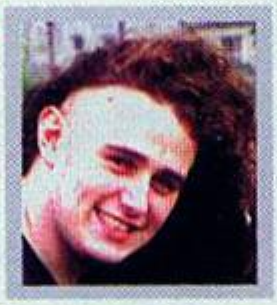
Editor from AA51 to AA89
Favourite CPC game: *Laser Squad.*
Worst CPC game: *Eswat.*
Favourite CPC utility: *Protext.*
Favourite issue of AA: The console one *(I think he means AA60 – Dave).*
Most vivid memory of AA: Never having enough time? Or do I mean money? And finding Adam Peters' old laundry under his desk.
Worst memory of AA: Type-ins that don't work and, "...it's the only reason I buy the magazine and it's not the first time I remember back in *AA17* there was a syntax error in line 1180 and it made my house blow up etc."
Where am I now? Future Leisure Books Editor, downstairs from *AA* and next to the kitchen. Right now actually. No, hang on, I've gone upstairs to the *AA* office.
CPC could be an acronym for... Consistent Pricing Casualty or Computer Purchased by Cretins or Carefully Preserved Corpse.
Favourite pastime while waiting for Lords of Midnight to load: Thinking how sad my life has become.

Dave Golder



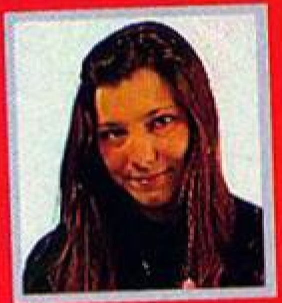
Editor: AA96 to now
Favourite CPC game: *Rick Dangerous 2*
Worst CPC game: *Count Duckula 2.*
Favourite CPC utility: *Multiface 2.*
Favourite issue of AA: *AA98.*
Most vivid memory of AA: Issue 100, strangely enough (it hasn't had time to fade into memory yet).
Worst memory of AA: Realising that Clur had followed me on to the mag from *Commodore Format.*
Where am I now? Is that a philosophical question?
CPC could be an acronym for... Curiously Philanthropic Cardboard.
Favourite pastime while waiting for Lords of Midnight to load: Trying to kid myself that something other than *Lords of Midnight* will appear on screen when it's finally loaded.

Simon Forrester



A poor lowly staff writer from AA89 to AA100, and half of one from then on...
Favourite CPC game: Elite.
Worst CPC game: I'd love to say *Zap'T'Balls* just to make people's arteries pop, but I think I'll stick with *Count Duckula 2.*
Favourite CPC utility: Without a doubt it would have to be *Maxam* on ROM. It's the best Assembler available for the CPC in Britain (having not experienced DAMS) and it's just, well wonderful really.
Favourite issue of AA: Out of those I've written for, probably issue 98, but my all-time favourite one is issue 12, because I won a competition in Ed Lines.
Most vivid memory of AA: Walking into the office on my first day and realising how small everything was (including Rod).
Worst memory of AA: Having to cut my nine-day holiday down to two days just to jump on a train, travel for six-and-a-half hours and come back into the office to sort out a problem with the covertape (issue 99's for fact freaks).
Where am I now? Erm, sort of half-way between *Commodore Format* and *Amstrad Action.*
CPC could be an acronym for... Well it could be Tequila Donkey Storm, but Amstrad don't make a computer called the TDS. How about Cripes! Plummeting Circulation?
Favourite pastime while waiting for Lords of Midnight to load: Wondering why I was loading this huge, complicated and above all boring effort of a computer game, instead of clicking through the levels of *Chuckie Egg* with the ease of a deity.

Linda Barker



Editor: AA89 to AA91
Favourite CPC game: Super Space Invaders.
Worst CPC game: (Help!)
Favourite CPC utility: Multiface – for grabbing.
Favourite issue of AA: AA90
Most vivid memory of AA: Having to rush between the AA and YS offices *(she edited both at the same time – Dave).*
Worst memory of AA: Sorry, haven't got one, it was fun while it lasted.
Where am I now? Consultant Editor on Sega Zone.
CPC could be an acronym for... Cute Pixie Cap.
Favourite pastime while waiting for Lords of Midnight to load: Blowing bubbles with my Hubba Bubba and writing a couple of poems.

Y TODAY

Debby Howard



Er, Andy... are you sure this is the right picture?

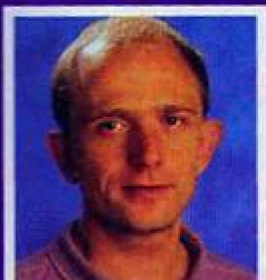
Adventure columnist: AA95 to now
Favourite CPC game: *Heroes of Karn.*
Worst CPC game: Any Dizzy game.
Favourite CPC utility: *Utopia.*
Favourite issue of AA: AA95.
Most vivid memory of AA: The humour.
Worst memory of AA: When the magazine dropped the adventure column a few years back, after the Pilgrim left.
Where am I now? Still writing for AA.
CPC could be an acronym for... Confound People Completely.
Favourite pastime while waiting for Lords of Midnight to load: Reading the whole of *War and Peace.*

Frank O'Connor



Staff Writer: AA66 to AA72.
Favourite CPC game: *Laser Squad.*
Worst CPC game: An Ocean movie license of some kind – take your pick.
Favourite CPC utility: *3D Construction Kit.*
Favourite issue of AA: *Total Recall (issue 68).*
Most vivid memory of AA: Rod swearing after phone calls, eg. "drooling old giffer".
Worst memory of AA: Leaving to go to *CVG.*
Where am I now? Editor of *Total!* magazine.
CPC could be an acronym for... Crazy Piece of Crap.
Favourite pastime while waiting for Lords of Midnight to load: Living a full and noble life.

Trenton Webb



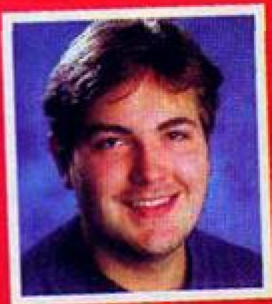
Staff Writer/Games Editor: AA42 to AA59
Favourite CPC game: *Operation Wolf, Gunship.*
Worst CPC game: *Altered Beast.*
Favourite CPC utility: Multiface 2.
Favourite issue of AA: The one with the *Roy of the Rovers* cover – it was a soccer special.
Most vivid memory of AA: Managing to blag a week in France at Fench's expense – visiting all the softies. Nice hotel just off the Champs Elysee, good beer, good food...
Worst memory of AA: The tape – sorry I'm a cart fan now.
Where am I now? Editor of *Game Zone* (an all-formats Nintendo magazine) (*another one who's sold his soul – Dave*).
CPC could be an acronym for... Consistently Perfect Computing, Communist Party Central, Confirmed Partially Cack, Curiously Pliable Creature... is that enough?
Favourite pastime while waiting for Lords of Midnight to load: Reading a darned good book – sorry that's what I put on CV's – really it would be worry beads, wood-touching and finger-crossing hoping that this time it loads.

Bob Wade



Software Editor/Deputy Editor/Editor (and generally amazing person): AA1 to AA34
Favourite CPC game: *Head Over Heels* – sheer genius by Jon Aitman.
Worst CPC game: *World Cup Carnival*, what a rip off.
Favourite CPC utility: Multiface, all those lovely POKEs.
Favourite issue of AA: Number 4, the first one with a covertape – what a stormer.
Most vivid memory of AA: Amongst many are the early days of AMTIX's announcement, nearly having to change the mag's name and being made Editor.
Worst memory of AA: Working literally all night on repeated occasions, although those were also the best of times.
Where am I now? Publishing manager of Binary Asylum, a brand new software developer.
CPC could be an acronym for... Colour Personal Computer – or have I misunderstood?
Favourite pastime while waiting for Lords of Midnight to load: Playing *Thrust* instead.

James Leach



Staff Writer: AA60 to AA65.
Favourite CPC game: *Laser Squad.*
Worst CPC game: *Rad Ramp Racer.*
Favourite CPC utility: Didn't have one.
Favourite issue of AA: The one with me on the front (65) – though it didn't sell very well.
Most vivid memory of AA: Rod's unpleasant beard.
Worst memory of AA: The bi-yearly covertapes.
Where am I now? Editor of *Superplay* magazine.
CPC could be an acronym for... Caesarean Parachute Camel.
Favourite pastime while waiting for Lords of Midnight to load: Walking the Pennine Way.

Pat McDonald



Technical Editor: AA33 to AA49
Favourite CPC game: *Bard's Tale, Pirates.*
Worst CPC game: *Psycho Pigs UXB.*
Favourite CPC utility: The first thing I reviewed, *Odd Job*, which I used all the time afterwards.
Favourite issue of AA: 37, with the Larry Elmore artwork cover.
Most vivid memory of AA: Meeting our publisher Greg Ingham fore the first time.
Worst memory of AA: Telling Carey I'd been busted by the police.
Where am I now? Doing form (*what – Ed?*).
CPC could be an acronym for... Completely Pointless Computer.
Favourite pastime while waiting for Lords of Midnight to load: Flicking elastic bands at Bob Wade.

Richard Montiero



Tech Ed: AA15 to AA32
Favourite CPC game: Wriggler
Worst CPC game: Roland on the Ropes
Favourite CPC utility: Multiface.
Favourite issue of AA: 15 – me on the cover.
Most vivid memory of AA: Gary Barrett.
Worst memory of AA: Gary Barrett.
Where am I now? MD at Paragon Publishing.
CPC could be an acronym for... Chunky Personal Computer.
Favourite pastime while waiting for Lords of Midnight to load: Listening to Bob Wade whinge.

Steve Carey



Editor: AA35 to AA50
Favourite CPC game: *Darkside*
Worst CPC game: *Psycho Pigs*
Favourite CPC utility: *Multiface 2* (a CPC magazine editor's best friend).
Favourite issue of AA: AA50 (my last one).
Most vivid memory of AA: Pat telling me he'd just been busted by the police.
Worst memory of AA: The cover of *AA40* (with me on it).
Where am I now? Publishing four of Future's computer games magazine titles – all of them excellent.
CPC could be an acronym for... Chips Potatoes and Chips.
Favourite pastime while waiting for Lords of Midnight to load: Eating.

Adam Waring



Technical Editor: AA50 to AA84
Favourite CPC game: Crystal Caverns (Hang on, didn't you write that? – Dave).
Worst CPC game: World Cup Carnival (Hang on, didn't you write that? – Dave).
Favourite CPC utility: Odd Job
Favourite issue of AA: AA62
Most vivid memory of AA: It was all a bit of a haze, really.
Worst memory of AA: That caricature – I looked like Jimmy Hill.
Where am I now? In Australia, editing a Sega Magazine and getting a tan (though not necessarily in that order).
CPC could be an acronym for... Cee Pee Cee.
Favourite pastime while waiting for Lords of Midnight to load: Sleeping off hangovers.

Andy Wilton



Technical Editor: AA6 to AA14
Favourite CPC game: *Thrust*, especially with reverse gravity.
Worst CPC game: *Glass*, for its complete lack of gameplay.
Favourite CPC utility: *DevPac*.
Favourite issue of AA: The one with *Kung-Fu* and *Number One* on the cover (*issue 4 – Dave*).
Most vivid memory of AA: See my final answer.
Worst memory of AA: A huge box full of Type-In contributions.
Where am I now? Writing a solid 3D shoot-'em-up for the Amiga.
CPC could be an acronym for... Code Phreaks Choice?
Favourite pastime while waiting for Lords of Midnight to load: Doing unspeakable things on Bob Wade's desk after Bob had gone home for the evening.

Adam Peters



Staff Writer: AA73 to AA87
Favourite CPC game: *Smash TV*, real edge-of-the-seat stuff.
Worst CPC game: *Count Duckula 2*, that's if it actually deserves the description 'game'.
Favourite CPC utility: *Protext CP/M*, 'cos it does columns.
Favourite issue of AA: All the ones with me on the cover (er, except the one with the guitar).
Most vivid memory of AA: Getting wolf whistles from workmen and horrified looks from small children as I walked through the centre of Bath dressed in drag to get to the *AA* Christmas panto photo-shoot (which appeared in *AA76*). Everyone else took a taxi, but they reckoned there wasn't enough room in it for me. I wonder...
Worst memory of AA: Reader call afternoons. Rod Lawton (editor at the time) sometimes "accidentally" arranged important meetings for those afternoons. Important meetings in other buildings, far, far away. Leaving me to deal with the horror of reader calls alone. I love the readers of course, it's just telephones that I'm scared of.
Where am I now?: In Brighton, making unlistenable pop music (Hippy State) and reviewing Sega and Nintendo games for magazines with *Zone* in the title. I still play on my CPC of course, it's the only machine that I can afford to buy games for.
CPC could be an acronym for... Colour Personal Computer, and indeed it is. It's also the name of an American company that makes peanut butter (true fact).
Favourite pastime while waiting for Lords of Midnight to load: Long distance running. I find I can manage three circuits in the time it takes to load. (*Three circuits of what? – Dave*). Britain.

Matt Nicholson



Editor: AA10 to AA14
Favourite CPC game: Lords of Midnight.
Favourite issue of AA: 12.
Most vivid memory of AA: Coming back from the type setter (before future bought its own Linotron) with a four-page article accidentally set in 64 point (in other words the letters were all about an inch high) because of a missing control code.
Worst memory of AA: Changing the column width of an article on my CPC664, using Wordstar, going to lunch, coming back an hour later and finding it only half done. Or, doing the launch issue of PC Plus at the same time as an issue of AA.
Where am I now? Freelance writer in Bristol.
Favourite pastime while waiting for Lords of Midnight to load: Dreaming up "page bottoms" with Bob Wade and Andy Wilton.

Clur Hodgson



Staff Writer: AA100 –
Favourite CPC game: *Pang*, I'm addicted.
Worst CPC game: *Fu-Kung In Las Vegas*, total and utter pap.
Favourite CPC utility: *Multiface 2*.
Favourite issue of AA: *AA100*, (well, what did you expect?).
Most vivid memory of AA: Filling in this questionnaire.
Worst memory of AA: Filling in this questionnaire.
Where am I now? Writing the *AA100* feature and catching up on the goss' with our freelancers.
CPC could be an acronym for... Clur's Perfect Copy.
Favourite pastime while waiting for Lords of Midnight to load: Trying to make sense of the mess that looks not unlike the scene of Custer's last stand (*I think she means Simon's old desk – Ed*).

Back issues

Still available: Issues 66, 75-99



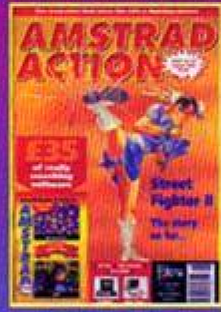
Issue 92: Floppy disks explained. The first 3.5 inch A: disk drive reviewed. On the tape: *BooTracker*, *Balloon Buster*.



Issue 93: Business software round-up. Reviewed: *Super Cauldron*. On the tape: *Racing BoxFoom*, *Mystical*, *Balrog*.



Issue 94: The best software and kit for your CPC. *Prehistonk II* reviewed. On the tape: *Instant Recall* (database), *Contraption*.



Issue 95: *Street Fighter 2* progress report (hah). *Trakers* reviewed. In loadable form: *MasterCalc* and *Biff*



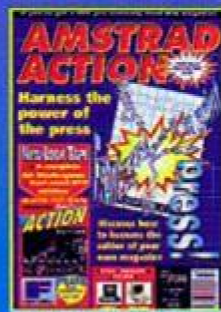
Issue 96: The secrets of ROMs revealed. The start of our complete cart roundup. On tape: *Screen Designer* and *Neil Android*.



Issue 97: Don't spend a fortune. Discover the best budget games and low cost serious software. *Zapp Assembler*'s on the tape.



Issue 98: Hints and tips on making your computing life less of a chore. On the covertape: the complete *Blues Brothers*.



Issue 99: DTP special as we show you how to produce your own fanzine. *Storm Lord* and DTP utilities adorned the tape.

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Cheat Mode

From the ice-capped mountains of Matlock, Lee Rouane, tipmaster supreme and Saint Bernard trainer, reports in with a wad of sensational celebratory centenary cheats...

Penguins

Starting off this centenary Cheat Mode are Tony & Donna Parker with a sure-to-be-popular cheat for the great puzzler from *AA* covertape 88, *Penguins*. T&D insist it's best game *AA* have ever had on the tape (*what about Rik The Roadie? – Dave*). Well done, T&D, you win a couple of games for your efforts. Take it away guys and gals...



How many penguins does it take to change a lightbulb? Answers on a postcard please.

```
GAXM  1·'AA·Penguins·Loader
PAHM  2·'Written·By·Tony·&·Donna·Parker·For·Ch
      eat·Mode
BBOE  3·'Hello!·Steve,·Carol·&·Big·Hello's·to·
      the·White·Opel
AALM  4·'
KAFH  10·DATA·11,A0,0F,21,FF,4B,0E,07,CD,CE,BC
      ,21,35,BF
KAKG  20·DATA·CD,27,BF,21,3A,BF,11,9D,44,CD,27
      ,BF,3E,04
KAMD  30·DATA·32,ED,66,3E,01,32,5C,7B,CD,EC,62
      ,06,05,D5
KAGX  40·DATA·CD,77,BC,E1,CD,83,BC,CD,7A,BC,C9
      ,33,2E,62
KAME  50·DATA·69,6E,34,2E,62,69,6E,3E,01,CD,6B
      ,BC,3E,03
KALC  60·DATA·21,A0,0F,11,C4,19,CD,A1,BC,3E,04
      ,21,9D,44
KAMD  70·DATA·11,D2,4B,CD,A1,BC,3E,04,32,ED,66
      ,3E,01,32
EAKM  80·DATA·5C,7B,CD,EC,62
HAME  90·chk=0:FOR·x=&BF00·TO·&BF66·
FAIJ  100·READ·a$:a=VAL("&"+a$)
HAOO  110·POKE·x,a:chk=chk+a:NEXT
GACC  120·IF·chk<>&2C98·THEN·410
LALF  130·CLS:MODE·1:BORDER·0:INK·0,0:INK·1,26
      :INK·2,19
BBDA  140·LOCATE·8,1:PEN·2:PRINT·"AA·Penguins·
      Cheat·-·"+CHR$(164)+"TP+DP"
PAFA  150·LOCATE·8,3:PRINT·"Please·Select·Your
      ·Options"
EAPO  160·WINDOW·#2,1,39,8,24
MABJ  170·PEN·1:PRINT·#2,"Load·From·Tape·Or·Di
      sc·?·(T/D)"
FAAC  180·a$=UPPER$(INKEY$)
LADM  190·IF·a$="T"·THEN·GOTO·210·ELSE·IF·a$="
      D"·THEN·310··
CAEX  200·GOTO·180
LAFJ  210·CLS#2:PRINT·#2,"Infinite·Lives·?·(Y/
      N)"
FALB  220·a$=UPPER$(INKEY$)
KAND  230·IF·a$="N"·THEN·270·ELSE·IF·a$="Y"·TH
      EN·250
CADK  240·GOTO·220
CBGM  250·CLS#2:PRINT·#2,"Please·Insert·Tape·A
      nd·Press·A·Key":CALL·&BB18
GAKF  260·POKE·&BF60,&0:CALL·&BF3F·
PAIX  270·CLS#2:INPUT·#2,"Number·Of·Lives·Then
      ·!·(Max·50)·",num
JAOF  280·IF·num<4·OR·num>50·THEN·GOTO·270
CBKM  290·CLS#2:PRINT·#2,"Please·Insert·Tape·A
      nd·Press·A·Key":CALL·&BB18
HAAE  300·POKE·&BF5B,num:CALL·&BF3F
LAGL  310·CLS#2:PRINT·#2,"Infinite·Lives·?·(Y/
      N)"·
FAMB  320·a$=UPPER$(INKEY$)
KAAK  330·IF·a$="N"·THEN·370·ELSE·IF·a$="Y"·TH
      EN·350···
CAFX  340·GOTO·320
CBAM  350·CLS#2:PRINT·#2,"Please·Insert·Disc·A
      nd·Press·A·Key":CALL·&BB18
GAOB  360·POKE·&BF20,&0:CALL·&BF00
PAJK  370·CLS#2:INPUT·#2,"Number·Of·Lives·Then
      ·!·(Max·50)·",num
JAAI  380·IF·num<4·OR·num>50·THEN·GOTO·370·
CBEO  390·CLS#2:PRINT·#2,"Please·Insert·Disc·A
      nd·Press·A·Key":CALL·&BB18·
HAEE  400·POKE·&BF1B,num:CALL·&BF00·
LAMK  410·PRINT·"Oh!·Dear·-·Typing·Error":STOP
```

Multiface Pokes

66ED,xx	Where xx = No. of lives
7B5C,00	Infinite lives

Are you befuddled by listings?

Don't panic! There's a full explanation of how to type in listings and what the codes at the beginning of each line mean in the Type-Ins section which starts on page 26.

Biff

Judging by the amount of letters, maps and solutions that we've received here at Cheat Mode, *AA95*'s covertape game *Biff* must have been one of the most popular to date. My old mate Peter Curgenven in Cornwall had the original solution printed here in Cheat Mode, but because we have had so many requests for the solution recently, here it is again, although penned this time by Paul Da Silva in Warwickshire. Now folks, please no more Biff solutions or maps.

General tips

- You can walk through the tree and even use it to climb the tree thus avoiding the birds.
- Try to avoid using the BANANA until desperate.

Poking the multiface way

1. Make sure that you've got a Multiface plugged into the back of your CPC; it helps.
2. Load the game as normal.
3. Press the RED button on the Multiface.
4. Press 'T' for tool.
5. Press '*' to select the code.
6. Press 'H' for HEXADECIMAL input.
7. Press 'SPACE' for input.
8. Type in the ADDRESS (ie, 3A7C)
9. Type in the POKE (ie, A7)
10. Press 'RETURN'
11. If there's more than one poke go to 7.
12. Press 'ESC' back to the menu.
13. Press 'R' to return to the game.

- Try to enter a room from the bottom a little at a time so that any nasties will not touch you, and if they come too close, edge out into the previous room and wait until they have gone.

The solution

- Get the POWER CARD and the WIRE CUTTERS and then go to the top of the tree and use both.
- Get the ROPE then go to the room where you collected the POWER CARD and use the ROPE to complete the bridge.
- Get the OLD CLOTHES and take them into the room containing the SCARECROW. Use them to complete the SCARECROW.
- Get the CHOCOLATE SEEDS (*the what? – Simon*) and use them in the SCARECROW room to get the BOX of CHOCOLATES.
- Go to the TREEHOUSE door and give MUM the CHOCOLATES (*aaahhh – Clur*).
- Get the AXE and use it to chop the CHOCOLATE TREE into PLANKS and then use these and the KEY to discover the WATER.
- Pick up the KEY, the EXPLOSIVES and the OIL.
- Go to the room with LOCK and use the OIL and the KEY to open it. Now go DOWN.
- Go LEFT a room and use the EXPLOSIVES to remove the WALL.
- Get the BATTERIES, TORCH and the BROKEN RING and then return to this room.
- Use the batteries to fix the TORCH and go left. Make sure you JUMP INTO this room as it is in total darkness. Use the TORCH to brighten things up a little.
- Get the JEWEL and use it to make the FIXED RING which you take to MUM in the TREEHOUSE.
- Get the EMPTY GLASS and go to the room with the FLOWER SEEDS. Use the EMPTY GLASS to fill it with whatever(?). Get the RECORD and then take them both to MUM.
- Get the BANGER, the COIN and the MATCHES and then use the MATCHES to light the BANGER.
- Take the COIN and use it to buy an ICE CREAM from MISTER WHIPPY. Pick up the FLOWER

SEEDS while you are on your way back to your MUM's to give her the ICE CREAM.

● Get the PLANT POT and go back to the SCARECROW room. Here plant the FLOWER SEEDS and POT the PLANT.

● Get the BUG SPRAY and use it on the FLOWER you have just potted.

● Give MUM the FLOWER and voila, that's it.

Game Over & Army Moves

Coming to the rescue of all *Game Over* and *Army Moves* fans is master, no, super-hacker Phil Howard with a complete cheat for both games. This POKE is for the Dead Or Alive compilation version of the games. Take it away Phil...



```
EAEM  1·'··GAME·OVER·1·AND·2
AAJH  2·'
GAHB  3·'··INF·ENERGY·AND·LIVES
AALH  4·'
EAFM  5·'··ACCESS·CODE·10218
AANH  6·'
AAOH  7·'
FAIJ  8·'··ARMY·MOVES·1·and·2
AAAI  9·'
DAIE  10·'·INF·LIVES
AAJK  11·'
EAJN  12·'·ACCESS·CODE·15372
AALK  13·'
AAMK  14·'
EANP  15·'·FOR·SUMMIT·TAPE
AAOK  16·'
FAKL  17·'·SUM·997·and·SUM·993
AAAL  18·'
FAKG  20·DATA·3A,46,21,FE,c9,28
FAOD  30·DATA·0C,AF,32,63,23,3E
FALG  40·DATA·C9,32,1f,23,CD,94
FAJH  50·DATA·8E,AF,32,8b,21,3E
FAPD  60·DATA·C9,32,47,21,CD,94
FAKM  70·DATA·8E,3a,3b,0b,FE,91
FABD  80·DATA·28,07,AF,32,68,08
FAOG  90·DATA·C3,58,93,AF,32,3a
EALE  100·DATA·0b,C3,90,92
FACE  110·MODE·0:MEMORY·&2000
FAGC  120·FOR·X=&A000·TO·&A033
FALF  130·READ·A$:·A=VAL("&"+A$)
FAHN  140·Y=Y+A:POKE·X,A:NEXT
FAJA  150·IF·Y<>5330·THEN·250
CAOF  160·LOAD"C"
GAGK  170·IF·PEEK(&9470)=&18·THEN·220
DANN  180·POKE·&90E9,&C3
DAKH  190·POKE·&90EA,0
DAKN  200·POKE·&90EB,&A0
CAOO  210·CALL·&9000
DAFN  220·POKE·&94D2,&1F
DABN  230·POKE·&94D3,&A0
CAMO  240·CALL·&9470
FAMG  250·PRINT·"DATA·ERROR"
```



The fashions at Ascot that year were infuenced by the nuclear fall-out of the prvious winter.





It's one small step for a giraffe but a giant leap for a jeep. They need some ramps.

Elite

Well, there had to be one, really. Fraser Clark from Queensland in Aussie displays some impeccable timing now with a cheat for this never aging space trader. Fraser tells us that if you are about to explode under enemy attack, you should press CLR to pause and "1" to exit. You should now answer "Y" to the question and press "2" to save. Now, exit and you will be at the station you're trying to reach. Fraser also warns that this shouldn't be done while scooping the sun as the consequences could be fatal when the sun is pulled into low orbit around the planet. You have been warned.

Dragon Spirit

Gain Infinite Lives in the last game from the TNT compilation, *Dragon Spirit*. Once again, Andy Price is you worthy host

```
IAPG  1·'·Dragon·Spirit·TNT·disk
EADF  2·'·by·ANDY·PRICE
AAKH  3·'
EANN  10·DATA·21,00,01,11,00,00
FAJH  20·DATA·0E,41,DF,D9,BE,F3
FANE  30·DATA·3E,C9,32,0C,01,CD
FAHC  40·DATA·01,01,21,9D,BE,22
```



Dragon Spirit – a game from the days when there were still combinations of the words "spirit" and "dragon" left to call games.

```
FAND  50·DATA·15,3C,C3,00,3C,E5
FAFE  60·DATA·F5,21,4C,EE,22,42
FAJG  70·DATA·EE,3E,C3,32,41,EE
FADG  80·DATA·21,BA,BE,22,37,EE
FALF  90·DATA·3E,C3,32,36,EE,E1
FAFI  100·DATA·F1,C3,64,ED,F5,21
FALB  110·DATA·00,00,11,00,03,06
FAOJ  120·DATA·20,CD,5A,EE,AF,32
FANE  130·DATA·6B,20,3E,21,32,36
FAJF  140·DATA·EE,21,00,A2,22,37
FAMK  150·DATA·EE,F1,C3,36,EE,3C
FAHC  160·DATA·C0,07,00,00,00,00
FAPJ  170·FOR·x:ABE00·TO·ABED8
FAAK  180·READ·a$:a=VAL("&"+a$)
GAMH  190·POKE·x,a:y=y+a:NEXT
FABF  200·IF·y<>&2567·THEN·220
EAEL  210·MODE·1:CALL·ABE00
HALI  220·PRINT"Error·in·Cheat"
```

Badlands

Determined to completely dominate Cheat Mode, Andy Price yet again calms all of those bad game playing nerves with his POKE-writing skills. This time Ocean's *Badlands* gets infinite lives.

```
FAGN  1·'·Badlands·-disk-
EADF  2·'·by·ANDY·PRICE
AAKH  3·'
EAKF  10·DATA·06,04,11,00,30
FAAG  20·DATA·21,1d,be,cd,77
FAMB  30·DATA·bc,21,00,01,cd
FACM  40·DATA·83,bc,cd,7a,bc
EAKP  50·DATA·21,21,be,22,8b
EAAJ  60·DATA·01,c3,00,01,44
EAPG  70·DATA·49,53,43,11,00
FAJA  80·DATA·06,d5,af,21,68
EACL  90·DATA·7b,77,23,77,23
DAFO  100·DATA·77,e1,e9
FADI  110·FOR·x=&BE00·TO·&BE2F
FAKJ  120·READ·a$:a=VAL("&"+a$)
GAGH  130·POKE·x,a:y=y+a:NEXT
FAIE  140·IF·y<>&1121·THEN·160
CAPP  150·CALL·&BE00
HANI  160·PRINT"DATA·error":CLEAR
```

The Manic multipoke mania zone

Oil up that red button-pushing finger with a whole host of previously unpublished POKES from Peter Curgenven and Tony & Donna Parker. Well done Peter, how did you manage to find so many? If you've found any POKES, or, indeed, if you've got any other game cheats, tips, hints or complete solutions, let us know by writing to Cheat Mode, *Amstrad Action*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

Game	Format	Poke, Address	Effect
Cave Mania (PC)	Tape	1FD5,00	Infinite lives
		49C2,00	Infinite rocks
Pro Power Boat (PC)	Tape	3573,00	Infinite lives
Commando (PC)	Tape	073C,FF	Infinite lives
Black Magic (PC)	Tape	3119,00	Infinite arrows
Roland In Time (PC)	Tape	1712,3A	Infinite lives
Ninja Scooter Sim (PC)	Tape	6E95,00	Stops timer
Hunchback 2 (TD)	Tape	84F6,A7	Infinite lives
High Steel (TD)	Tape	0D77,FF	255 lives
Donkey Kong (TD)	Tape	8A18,A7	Infinite lives
Dizzy Yolk Folk (PC)	Tape	1860,AA	Infinite lives
Pacland (PC)	Tape	437E,AA	Removes ghost
Spherical (PC)	Tape	7561,00	Stops clock
Eagles Nest (PC)	Tape	1AE3,00	Infinite keys
Ollie & Lissa (PC)	Tape	52E6,C9	Infinite energy
Park Patrol (PC)	Tape	2F22,00	Infinite energy
		413A,00	Infinite lives

The Examiner

The text adventure is a noble and ancient artform. Debby Howard is well-versed in its arcane and mysterious ways. So heed her advice and ye shall go far (well, you always have to get 'ye', 'lo' or 'forsooth' somewhere in an adventure intro).

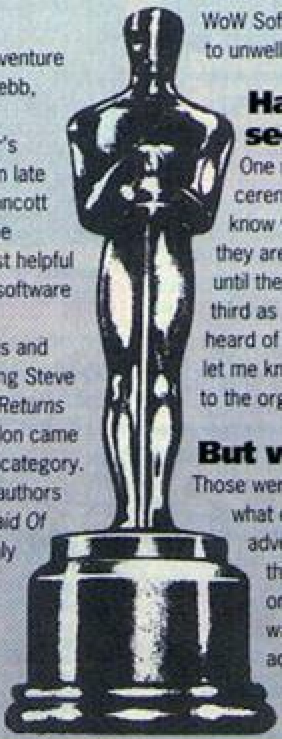
THE ADVENTURER'S — CHRONICLE —

Glittering prizes

Anyone who reckons that the adventure scene on the Amstrad is on the ebb, should take note of the award winners at the annual Adventurer's Convention held in Birmingham in late October 1993. As usual Joan Pancott was heavily featured amongst the winners, coming first as the most helpful adventurer and having the best software house (WoW Software).

Some WoW-distributed games and writers also won awards, including Steve Clay (best 8-bit author) and *Tax Returns* (best 8-bit adventure), while Marlon came joint first in the best new author category. Marlon, you may recall, are the authors of the GAC adventure *Who's Afraid Of The Balrog?* Since there were only seven categories in which adventurers' could vote the Amstrad did very well indeed.

There was also a special award which was given to Maurice Pancott who has kept WoW Software going while Joan has been to unwell to do the work herself.



Have you seen this man?

One mystery that did arise out of the ceremony was that no-one seemed to know who Nigel Gettlewell was, and they are unable to give his award to him until they can locate him. He came joint-third as the best new author, so if you've heard of him, or, indeed, if you are him, let me know and I will pass on the details to the organisers.

But what do we think?

Those were the official rewards, then, but what do I reckon are the most worthy adventures of all time? The answer to that is in the feature which starts on page out. So what are you waiting for? Discover the adventures that your Amstrad deserves loaded into its RAM every once in a while.

Lords & Ladies of Adventure

The Lords and Ladies of Adventure are an institution that has been with AA from the start. Yep, since issue one we have been producing our very own *AA* honours list. But we don't honour just anybody, oh no. You have to do two things:

a) Complete an adventure

b) Agree to have your name and phone number/address printed in *AA* so that other people having problems with that adventure can contact you for help.

Simple. And the people below have fulfilled these criteria. So if you're stuck on any of the adventures listed simply contact them by phone or letter (in which case enclose an SSAE) and they'll be happy to help you out.

- Just about every CPC adventure ever written – Joan Pancott ☎ (0305) 784155 between 1pm and 10pm.
- *Adult 2, Can I Cheat Death?, Dungeon, Firestone, Jason & The Argonauts, Spacy, Tizpan, Welladay* – Stuart Mainland, 2 Douglas Road, Coylton, Ayr, KA6 6JJ.
- *Avon, Forest At World's End, Hollywood Hyjinx, Kobyashi Naru, Mordon's Quest, Scapeghost* – Angela Allum, 22 Point Royal, Bracknell, RG12 7HH.
- *Knightmare, Kobyashi Naru, Rebel Planet, Who's Afraid Of The Balrog?* – Ross Younger, 3 Cammo Parkway, Edinburgh, EH4 8EP.
- *Five On A Treasure Island* – Phil Mitchell ☎ 0684 274232 (evenings).

REVIEW Larry The Lemming's Urge For Extinction

By Scott Denyer (free game which comes with *First Past The Post*, reviewed on the opposite page).

Larry the Lemming was in emotional turmoil. Not only had he just got puberty out of the way, but now he had the strange urge to throw himself off a large cliff. His loving mother, knowing of these recent urges, decided that jumping off a cliff just wasn't on and that Larry must permanently wear an automatic parachute and rubber ring. Having gone for a walk one day, Larry found himself on the beach and decided that now was as good a time as any to, "take the plunge." However, Larry was rather frightened of the holiday-makers between himself and the cliff.

Although this adventure is rather small (only 14 locations), what a little cracker it is! That's not really surprising since it was written by Scott Denyer, who's well known on the Spectrum adventure scene (but don't let that put you off). It has been well written using Adlan and converted over to the Amstrad by Simon Avery. Quite a few of the objects you come across need to be used more that once so it's best not to discard any of them unless it becomes completely necessary.



The puzzles themselves are rather good, and it'll help you immensely if you carefully read each location description because there are a few subtle clues wh ch help solve some of the problems. And don't forget that this adventure is a mere freebie when you order *First Past The Post* from the Adventure Workshop. For a freebie it's darned good value. Well, I suppose anything free is darned good value, but you know what I mean; it's better than you'd expect something that's free to be, and better than the game it comes with.

70%

Good Lord



Philip Reynolds has to be the adventurer of the month having completed a massive 255 adventures, and he has kindly decided to let you in on all of their little secrets. So if you're stuck on any of the following games write to Philip (at The Adventure Workshop, 36 Grasmere Road, Royton, Oldham, Lancashire) with your request for help giving him full details and he will gladly answer you (so long as you enclose an SSAE). And for this feat I am awarding him an honourary Lordship.

Adult II, Adventure Quest, Adventures Of Zebedee Gonig, Aftershock, Agatha's Folly, Alien Planet, Al-Strad, Amstrad Action Adventure, Angelicus Answer, Angelicus Saga, Angelique, Antidote, Apache Gold, Arena, Arnold Goes Somewhere Else, Astral Plain, Atalan, Aunt Velma's Coming To Tea, Axe Of Kolt, Ballyhoo, Base, Behind The Lines, Bestiary, Big Sleaze, Big Top, Black Fountain, Black Knight, Blue Raider, Boggit, Book Of The Dead, Border Harrier, Boredom, Bounty Hunter, Brawn Free, Bugsy, Burlough Castle, Cacodemon, Can I Cheat Death? Captain Kook, Case Of The Beheaded Smuggler, Case Of The Mixed-Up Shymer, Castle Adventure, Castle Warlock, Cave Capers, Cave Of Darkness, Caves Of Bew Bews, Caves, City For Ransom, City Of Shadows, Colossal Adventure, Colour Of Magic, Corya Warrior-Sage, Dragon, Conch, Countdown To Doom, Crash Landing, Crispies Crunchy, Crown Jewels, Crystal Theft, Cursed Be The City, Dance Of The Vampires, Dances With Bunny Rabbits, Danger Adventurer At Work, Danger Adventurer At Work 2, Dark Manor, Darkest Road, Dark Sky Over Paradise, Dave Dangerous, Davy Jones Locker, Dead End, Deadenders, Desmond Of Gertrude, Detective, Dick Ed, Die You Vicious Fish, Doomlords, Dragon Slayer, Drake, Druids Moon, Dungeon, Dungeon Adventure, Dungeons Dragons Amythysts, Dungeon Of Hell, Elsinore Diamond, Escape, Escape From Alien Spaceship, Escape From Koshima, Escape From The Planet Of Doom, Experience, Fantasia Diamond, Fantastic Adventure, Federation, Firestone, First Past The Post, Fight From Danger, Flook, Forest At Worlds End, Four Symbols, Foxy, Fugitive, Galaxias, Gerbil Riot Of '67, Get Me To The Church, Ghost House, Gladiator, Grange Hill, Grue Knapped, Guardian, Guild Of Thieves, Hacks, Haunted House (Incentive), Haunted House (PD), Hermitage, Heroes Of Karn, Hero Select, Hobbit Hunter, Holiday, Holiday II, Homicide Hotel, House Out Of Town, Hunchback, Ice Wizard, Ichor, Imagination, Inca Curse, Inner Lakes, Into The Mystic, Island, Island Of Chaos, Jade Stone, Jason And The Argonauts, Jewels Of Babylon, Jolly Poppa Down, Journey To Death, Kat To Paradox, Kidnapped, Kingdom Of Hamil, Kingdom Of Zaar, Knight Orc, Labyrinth, Larry The Lemmings Urge For Extinction, Last Believer, Last Snowman, Leather Goddess Of Phobos, Lighthouse Mystery, Lord Of The Rings, Lords Of Magic, Lost Shadow, Magicians Apprentice, Magnetic Moon, Mell, Merlin, Message From Andromeda, Miami Mice, Microfair Madness, Microman Project X, Minette, Miser, Moonbase III, Moonmist, Mordon's Quest, Morgans Seal, Mountains Of Ket, Mural, Necris Dome, Nite Time, Nova, Nythyhel, Orb Quest, Panic Beneath The Sea, Pawn, Public Domain Library Blues, Pendant Of Logryn, Planet Of Death, Pride Of Tewksbury, Prison Blues, Prophecy, Quad-X, Quad-X 2, Quest For The Golden Eggcup, Quest For The Holy Snail, Race, Ransom, Raymond Pringle's Quest For The Fabled Picked Cabbage, Rebel Planet, Rescue, Return To Eden, Revenge Of Chaos, Revenge, Rigel's Revenge, Ring, Rings Of Artek, River, Robin Of Sherwood, Roog, Rouge Midget, Save Your Sister, Seabase Delta, Search For The Largo Grann, Search For Mithrillium, Seas Of Blood, Seastalker, Secrets Of Ur, Shard Of Inovar, Sharpes Deeds, Ship Of Doom, Simply Magic, Simsoft Adventure, Smashed, Snowball, Snow Joke, Souls Of Darkon, Space Station, Spaced Out, Spectre Of Castle Coris, Spiro Legacy, Spy-Trek, Staff Of Power, Starship Quest, Storm Mountain, Stripy, Strypiche, Subsunk, Sugarstone, Swamp Thing, Talisman Of Lost Souls, Teacher Trouble, Tesland, Test, Theseus And The Minotaur, Thieves Tale, Time, Time Traveler, Trojan Lord Of The Jungle, Top Secret, Total Reality Delusion, Toxic, Travel, Traveller, Treasure Island, Treasure Tunnels, Trial Of Arnold Blackwood, Ultimate Nightmare, Underground Adventure, Unknown Planet, Use Your Loaf, Venom, Videoworld, Warlord, Well, Welladay, Werewolf Simulator, Weirdstone, Winter Wonderland, Wise And Fool Of Arnold Blackwood, Worm In Paradise.

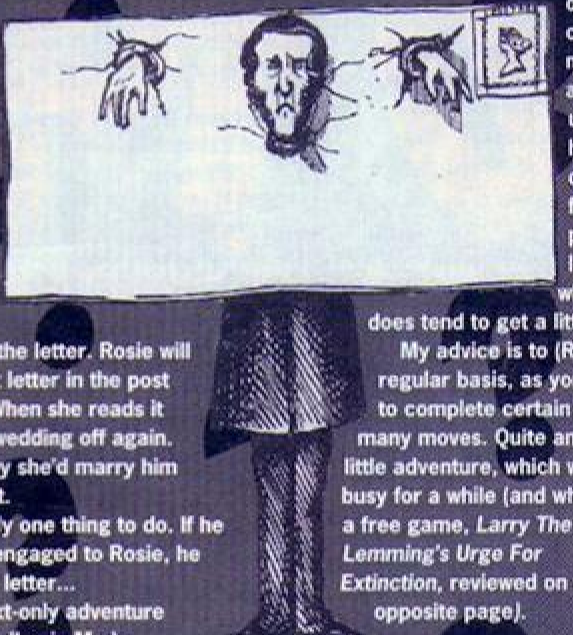
REVIEW
First Past The Post



Written by: Gareth Pitchford
Price: Disk £4 Tape £2
Address: The Adventure Workshop, 36 Grasmere Road, Royton, Oldham, Lancashire
Cheque payable to: PM Reynolds

Ernie Spludge is in trouble. No, it's not his name he's bothered about. He's in trouble because yesterday he had an argument with his fiancé, Rosie Cheeques, in which they both ended up calling each other rude names (and when you're called Spludge you get to be an expert in coming up with rude names). To cut a long story short, they broke off the engagement and Ernie went home in a huff.

Though not normally one to lose his temper, Ernie was angry. So he wrote a vile, horrible letter to Rosie telling her exactly what he thought of her! He posted it that very evening. In the cold hours of the morning Ernie realised he had been wrong. In fact, Rosie rang up telling him she'd had no sleep either and would he forgive her? Ernie did, and the engagement was on again.



Now if you're as slow as Ernie, you may only now be remembering the letter. Rosie will be getting that letter in the post this evening. When she reads it she'll call the wedding off again. There is no way she'd marry him after reading it.

There is only one thing to do. If he wants to stay engaged to Rosie, he must stop that letter...

This is a text-only adventure written using Adlan in Mode One, although you would be hard pushed to notice the difference between this and a *Quilled* adventure apart from the fact that you can RAMSAVE and RAMLOAD your position. It has a BASIC loader, which informs you of the scenario, but lacks any information on VOCABulary needed to play the adventure. It does have special features, but it's left up to you to find them; for example you can type in X for examine.

The adventure itself does have a good feel about it, but I wish that you didn't have to rely on the SEARCH command to locate most of the objects needed in the first part of the adventure. A quick tip – be sure to search certain places more than once.

If you've always wondered what happened to a missing letter of yours – you know, the one with the fiver from your auntie – you may well discover the answer in this adventure.

Every time you GET or DROP an object you will be prompted to, 'press a key,' so that the screen can clear itself to show you the new list of objects that you can see; this is not too much of a problem unless you have several objects you've found in a particular location, in which case it does tend to get a little bit annoying.

My advice is to (RAM)save on a regular basis, as you are required to complete certain tasks within so many moves. Quite an interesting little adventure, which will keep you busy for a while (and which comes with a free game, *Larry The Lemming's Urge For Extinction*, reviewed on the opposite page).

69%



Where To Go!

Get a load of this – if you send a stamped self-addressed envelope to either of the following addresses, within a few days you will receive a catalogue of all the adventures, new and re-released, that they've got in stock. And then you'll be able to order the ones you want. What a truly amazing concept.

- WoW Software, 78 Radipole Lane, Weymouth, Dorset, DT4 9RS.
- The Adventure Workshop, 36 Grasmere Road, Royton, Oldham, OL2 6SR.

Centenary Survey

The results – we asked you what you thought about the CPC universe, and here's what you had to say...

Favourite CPC game
1 *Elite* (comfortably)
2 *Super Cauldron*
3 *Lemmings*

This wasn't a fix, honest. Actually this was a one-horse race in which *Lemmings* and *Super Cauldron* were left to battle it out for the runner-up placing.

Least favourite CPC game
1 *Count Duckula 2*
2 *Double Dragon 2*
3 *Balloon Buster*

The votes were evenly spread, but eventually the game that got the second-worst score in *AA* history won out.

Favourite CPC game graphics
1 *Titus The Fox*
2 *Prehistorik 2*
3 *Purple Saturn Day*

Titus won this category even more convincingly than *Elite* did the best game.

Favourite CPC game music
1 *Blues Brothers*
2 *Turrican 2*
3 *Cybernoid/Lemmings*

It's amazing what an appearance on the covertape will do for your popularity.

Favourite word processor
1 *Tasword*
2 *Protext*
3 *Mini Office 2*

This one was closer than a shave with a Gillette Sensor. *Tasword* won this by one vote. Amazing what an appearance on the covertape will do for your popularity.

Favourite other utility
1 *Advanced Art Studio*
2 *JL Copy*
3 *Instant Recall*
4 *Bootracker*

We mentioned fourth place in this category just to please Simon – he wrote it, you see.

Favourite hardware add-on
1 Multiface 2
2 Printer
3 Disk drive

Would you believe the Multiface 2 almost got more votes than everything else put together? It's true.

Favourite AA covertape
1 32 (*Blues Brothers*)
2 22 (*Tankbusters, Penguins, DMON, JL-Copy*)
3 10 (*Cisco Heat, Impossaball, Tir Na Nog*)

It's amazing what an appearance...etc.

Favourite issue of AA
1 All of them
2 90
3 98

Yeuch! How sickly sweet of you lot. What is this? An american sit-com or something?

Favourite AA cover
1 98
2 80
3 90

Now you're just creeping. We'll assume you really mean it and that you could actually remember what the covers previous to the one which adorned the same issue the survey was in looked like. (By the way, check out the middle pages to see these winners in all their glory.)

Best PD library
1 Robot
2 Sheepsoft
3 Dartsma

See, Richard, they loved your PD library. Open it up again soon please. Well done to Sheepsoft, probably the most surprising result in the survey.

Most annoying thing about the CPC
1 Scarcity of software
2 Takes ages to load things from tape
3 3-inch disks

The lesson here seems to be that cheap software on 3.5-inch disks would prove pretty popular.

Coming soon

Get ready for two games from Radical that are set to redefine platform action and beat-'em-up standards on the CPC. Dave checks out the progress so far...



Lethal Moves, bending over backwards to please.

Fluff

Watch out Sonic, 'cos *Fluff* is on his way. Radical reckon that this cutesy platformer is going to bring polished, fast-action, console-style gameplay to the Plus in a big way.

The game stars a fluffy character called, you guessed it, *Fluff*, who, in the grand tradition of platform games, dashes around various multi-coloured levels, collecting some things and killing the other things. Radical are putting in effort beyond the call of duty to get the thing looking and playing as much like *Sonic*-style console game as possible. How does this lot sound:

- Pixel-perfect scrolling.
- The main sprite is affected by the laws of inertia (which, in layman's terms for people like me, means that he skids).
- Fluff's animation alters depending on the speed he's travelling, and he also slows down on slopes or speeds up on slopes.
- Four lavish levels each comprising at least two zones.



The graphics to Fluff might look good already, but Radical are still in the process of improving them.

Rob Buckley of Campursoft reckons that *Fluff* will stretch the Plus' capabilities to the limits making full use of the advanced facilities it offers such hardware sprites.

"Most Plus games have been CPC games with improved graphics. This tries to be much more like a console game," Rob told *AA*. "I've never seen a CPC game with such perfect gameplay."

If *Fluff* if half as good technically as Rob reckons it is, then it's going to look mightily impressive. But can the gameplay match the aesthetics? It could be hard, but I reckon *Fluff* is shaping up to be a stormer. It's due for completion in January, so look out for a review in issue 102.

Lethal Moves

Forget *Street Fighter 2*. Who needs it? The CPC has got its own brand new heavyweight beat-'em-up due for release in February that looks like it could go the distance with Blanka and the gang.

Lethal Moves will be an multi-character beat-'em-up which you can play one-against-one a mate or against the computer. It's a 128K-only program and looking at the graphics you can see why – each of the fighters takes up 16K of memory.

At the moment it is still in its very early stages of development (it's currently got parallax scrolling but this might not make it to the final release) but Radical reckon the game will be ready for release by February next year.

More news – and screen grabs – on both of these releases next issue.

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Next Month

101

REASONS TO BUY AA101

Right, first off, on the covertape, we've got the superb Exolon, a pulsating platformer which scored a hefty 93 per cent when we originally reviewed it. The main feature will be all about animation, and getting your CPC pictures to move. Because you demanded it – Clur commences a beginners' course in BASIC. There'll be a massive four pages of games cheats, tips and hints in Cheat Mode. Some great gallic games get reviewed (if Dave can learn enough French to get the company to send us the darned things). Also on the covertape, we're giving away a menu-based desktop system that our Si is writing for us at this very moment, so long as he finishes it in time (don't panic Campursoft – it'll just whet people's appetites for your ROM-based WIMP system). Then there are all the regular features – The Examiner, Assembly Line, Public Image, Techy Forum. We'll have all the latest CPC news in Amscene. Dave will be doing a fanzine update (including CPC Now this time – sorry James). Er... plus some ads, a games round-up like you've never seen before, letters, a cover... er... this is getting desperate... do you think the text is small enough now they won't know whether there are 101 reasons or not? Probably not. Right, well there are 60 pages, so that's 60 more reasons. We must be nearly there now. And then there's the fact that if you don't buy it Dave, Andy and Clur will be out of jobs. Hairy won't be 'cos he's got new friends on Commodore Format now, the turncoat. So what are we up to now? We've got to be nearly there.

And you you don't even have to wait a whole month – the next issue is on sale...

Thursday 20th January

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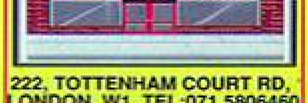
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